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AUTHOR Babikian, Elijah; And Others
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ABSTRACT

The purpose of the analysis was to provide a profile of instructional activities related to content and referenced to specified instructional outcome areas. Emphasis was placed on determination of four major factors: (1) major outcomes in the program and their relative emphasis in both regular and supplementary instructional materials, (2) the distribution of content within and across instructional units (chapters), (3) points in the instructional sequence where mastery of outcomes is assessed, and (4) the amount of independent practice in regular and supplementary instructional materials related directly to each major outcome developed in the program. The analysis was organized around seven content strands and is presented in a series of tables. For each grade the tables indicate pages on which various topics are presented. The locations of tests and numbers of items covering various topics are also indicated. The completed analysis forms the basis for preliminary specification of an application of Learning Mastery System procedures to the series. (Author/SD)

SWRL

SOUTHWEST REGIONAL LABORATORY TECHNICAL NOTE

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TITLE: CONTENT ANALYSIS OF LAIDLAW MATHEMATICS PROGRAM FOR ELEMENTARY GRADES K-6

AUTHORS: Elijah Babikian, Jim Winchester and Aaron Buchanan

ABSTRACT

A content analysis was completed of the Laidlaw mathematics series for elementary grades. The purpose of the analysis was to provide a profile of instructional activities related to content and referenced to specified instructional outcome areas. Emphasis was placed on determination of:

1. major outcomes in the program and their relative emphasis in both regular and supplementary instructional materials.
2. the distribution of content within and across instructional units (chapters).
3. points in the instructional sequence where mastery of outcomes is assessed.
4. the amount of independent practice in regular and supplementary instructional materials related directly to each major outcome developed in the program.

The completed analysis forms the basis for preliminary specification of an application of Learning Mastery System procedures to the series.

CONTENT ANALYSIS OF LAIDLAW MATHEMATICS PROGRAM FOR ELEMENTARY GRADES K-6

Elijah Babikian, Jim Winchester and Aaron Buchanan

This document describes a content analysis of the Laidlaw mathematics series for elementary grades. The document is divided into three sections as follows:

Description of the Analysis. Procedures used by staff members of the Southwest Regional Laboratory for Educational Research and Development (SWRL) in performing the analysis are described. These procedures were used to generate descriptors of instructional outcomes from index entries in the Laidlaw teacher's editions and to determine the location of instructional and evaluation activities relevant to these outcomes in various Laidlaw components.

Interpretation of the Analysis. Procedures are recommended for identifying relationships in the analysis table between content organization, evaluation of outcomes, and provisions for individual practice, and for comparing these relationships with those desired in an application of a Learning Mastery System.

Preliminary Specifications of a Learning Mastery System Application. Broad preliminary specifications for the architecture of an application of a Learning Mastery System to the Laidlaw series are presented. These specifications include: (1) a discrete number of broad instructional outcomes that can serve as a unifying structure for assessing pupil progress through various levels of the program, (2) suggested evaluation components, and (3) materials suitable for indi-

vidual practice on outcomes assessed in LMS throughout the program.

DESCRIPTION OF THE ANALYSIS

CONTENT STRANDS

The analysis is organized around seven vertical strands of content identified by SWRL as basic units of structure within the Laidlaw program. These strands are listed below in the order of their appearance in the content analysis.

- Identifying Numbers and Numerals
- Expressing Numerical Relationships
- Performing Mathematical Operations
- Describing Geometric Concepts
- Solving Verbal Problems
- Performing Measurements
- Expressing Functional Relationships

OUTCOME DESCRIPTORS

For each strand and substrand, a set of outcome descriptors has been prepared by SWRL staff to describe the content at each level of the program. These descriptors are statements of expected outcomes of instruction. An example of descriptors for "Expressing Numerical Relationships" in Level 5 is shown below.

1. Identify related symbols

   Parentheses ( )
   Brackets [ ]
   Placeholder □
   <, >, =, ≠
   +, -, x, ÷

2. Recognize related terms and concepts

   Addend
   Sum

Subtrahend
Minuend
Difference
Factors
Product
Dividend
Divisor
Quotient
Replacement set
Solution set

3. Compare numbers and numerical expressions

Whole numbers
Fractional numbers

4. Identify open and closed sentences

5. Simplify numerical expressions

6. Solve number sentences

Outcome descriptors were derived using the following procedures:

1. All entries in the index of the teacher's edition were partitioned according to the seven content strands. Elementary priorities in classification were followed which eliminated most of the multiple listing of index entries across strands.

2. Within each strand, index entries were translated into a small set of statements of intended mathematical behaviors (outcome descriptors). In some instances, the descriptors are comprehensive, and no subordinate outcomes are included; in other instances, subordinate outcomes are included because major portions of the instructional materials were devoted to their review.

TABLE ENTRIES

Instruction and evaluation activities from core components of the Laidlaw program were classified according to the prespecified out-

come descriptors. The core components analyzed were the student text (teacher's edition), the student workbook, a special self-instructional component (available for Grades 3-6), and a separate battery of chapter tests. Since the purpose of the analysis was to obtain a profile of instructional activities, an exhaustive listing of all activities included in all components was not necessary. In-book chapter tests and pretests were not included because of their parallel structure with the separate battery of chapter tests. A description of all supplementary program components is in Appendix A.

Activities are entered in the analysis table in chapter columns opposite related outcome descriptors. Page numbers from the student text and workbook are used to designate instructional activities; item frequencies on chapter tests are used for evaluation activities. For each entry, the number of items or problems directly related to the outcome descriptor was determined. It was reasoned that item frequencies directly related to an outcome descriptor are better indicators of the amount of independent practice provided in a chapter for each outcome than are page entries. In determining item frequencies, the number ten was chosen as a cutoff point since most instructional activities related principally to major outcomes contained at least ten items of practice. An entry of (10) following a set of page entries indicates that ten or more items providing direct practice on the outcome were found in the chapter.

During the course of the analysis, it occasionally became necessary to develop some conventions for determining item frequencies.

Items were counted according to the number of separate responses requiring direct outcome-related performances. In some instances, such as the reproduction of counting sequences, individual responses were not independent of each other. In this case, each separate sequence was counted as a response. Occasionally, mastery of a particular outcome might be helpful in making a response, but unnecessary. Where responses could be made as a result of acquisition of some other outcome, especially an outcome that is learned rather early in the instructional sequence (such as recognition of number facts), no items were recorded with the descriptor. Conventions were also developed for classifying problems in activities involving either number line or semi-concrete pictorial models to solve equations. While use of the model might be helpful in making a required response, it was seldom required that the model be interpreted; a recall of basic number facts or the application of some computation algorithm was usually sufficient. In instances such as these, an item was recorded for purposes of the analysis with a descriptor involving "models" if a discussion involving representations of the model were included with an activity.

Actual entries for a particular descriptor are coded as follows:

1. Pages from the student text (or student pages from the teacher's edition) appear in regular typeface with the number of items, to 10, following in parentheses.

2. Pages from the student workbook and the number of related items, to 10, are underlined.

3. Chapter test entries are preceded by CT with the number of items related to the descriptor following.

INTERPRETATION OF THE ANALYSIS

CONTENT STRANDS

The distribution of content in the program can be inferred from the analysis in the following ways:

1. Examination of Instruction and Evaluation Entries for a Particular Outcome Across Chapters and Levels. It is possible to draw some conclusions concerning the independence of one outcome from another. If there are several instructional entries, but few review or evaluation entries, it is possible to infer that this outcome cannot be easily separated from other outcomes during instruction. This inference is related in part to methods used in development of the analysis. The major source of instruction entries (textbook) was the index of teacher's editions at each level. Since index entries are likely to be classified with as many content domains as are possibly relevant, there was a considerable degree of multiple classification among instructional entries. Review and evaluation entries, on the other hand, were made from a page-by-page analysis of the components. In this case, multiple classification was avoided wherever possible, and activities were referenced to the outcome with the most appropriate descriptor. For example, "number recognition" is implicit in "numeral recognition". Among instruction entries, activities are normally classified under outcomes related to both skills. However, most evaluation activities do not discriminate between the two skills and, in the analysis, would all be classified under outcomes related to "numeral recognition".

2. Examination of Entries in the Chapter Columns. For purposes of a Learning Mastery System it is desirable that content included in each chapter be reasonably homogeneous. Unit division should be determined primarily by outcomes to be acquired and their presentation sequence. The instructional entries in each chapter should be spread over no more than 7 or 8 outcomes if evaluation of mastery is to retain some reliability and tests are to remain a reasonable length. Where chapters in Laidlaw provide instruction on more outcomes than this, it may be necessary to defer assessment of some outcomes until they are represented in a subsequent chapter.

3. Examination of all Descriptors for a Particular Content Strand over all Levels of the Program. If there are very few descriptors that differ distinctly, or if the set of descriptors show little hierarchical relationship, an area of content probably does not possess strong sequential characteristics of its own. Some areas, such as "Sets" in Levels K-3, exist principally as models for whole numbers and related operations. By comparison, material devoted directly to the development of concepts related to sets and set theory is relatively minor.

OUTCOME ASSESSMENT

Instructional entries frequently occur in the analysis with no accompanying evaluation entries. In general, this circumstance implies one of the following:

1. Evaluation is deficient.
2. Instruction is primarily in the form of teacher explanation

with little or no independent practice for the pupil.

3. Instruction and practice on a particular outcome cannot be separated from a more inclusive outcome.

4. The outcome is minor in comparison to the amount of instruction given on other skills presented in the unit.

Occasionally, an outcome will be assessed at a lower level than that reached during regular instruction. This condition sometimes occurs when the amount of instruction on the skill at the higher level is either very small, or is intended as an extension of an outcome for more able pupils.

The number of items per outcome-per unit averages 3-4. Item frequencies such as these may be adequate in skill maintenance or retention, but should probably be increased in criterion exercises where acquisition of new or extended skills is assessed.

INDEPENDENT PRACTICE

The amount of independent practice on each outcome can be determined by attending to the numbers in parentheses following underlined and non-underlined page entries. Of primary interest are instances where instructional entries (regular instruction and review) are associated with fewer than ten items of independent practice. The number ten was chosen as a reference point for the analysis since many activities approached but did not exceed this number. It was reasoned that outcomes with fewer than ten items of practice, and particularly outcomes with fewer than five or six items, do not provide sufficient practice for attainment of the skill.

PRELIMINARY SPECIFICATIONS OF A LEARNING MASTERY SYSTEM APPLICATION

CONTENT STRANDS

The strands of content related to the arithmetic of whole and rational numbers are dominant. This may be inferred by inspecting the number of outcomes developed (as represented by outcome descriptors) and the number of instructional entries per outcome. Outcomes developed in these strands, as well as most of their substrands, usually include at least 10 items of independent practice. Strands containing many outcome descriptors in common with other strands would not likely be preserved as independent outcome areas in a Learning Mastery System.

INSTRUCTIONAL OUTCOMES

Five or six broad outcomes such as the following will likely be recommended as a basic outcome structure for the development of Learning Mastery System procedures:

1. Recognize basic elements and concepts
2. Decode systems of symbols
3. Express mathematical relationships
4. Verify mathematical relationships
5. Perform operations
6. Solve verbal problems

One or more of these outcomes represent major skills to be developed in each of content domains such as the following:

I. Sets

II. Whole numbers

III. Rational numbers (positive)

IV. Integers

V. Geometry

VI. Measurement

VII. Logic

Pupil progress through broad instructional sequences for outcomes applicable to each content domain will be monitored throughout the program. At each level, a set of outcome descriptors will further refine cells in the outcome-content matrix to reflect all of the content included in the program for that level.

EVALUATION COMPONENTS

In a number of instances recognition of properties of mathematical operations is introduced through verbal instructions given by the teacher. Pupils are encouraged but not required to recognize these properties in solving related equations or problems. Acquisition of skills such as these should not be assessed in a Learning Mastery System until approximately 10 items of independent practice have been provided in a single chapter. In chapters where no instruction on new outcomes is begun, the principal outcomes under review will be evaluated. The context for evaluation should include settings which parallel those used during regular instruction, but they should also include some transfer settings which may be generally familiar to the pupil but not in association with the outcome under development. In general,

there should not be more than two or three items of the latter type for any particular outcome developed in a chapter.

LMS evaluation components for Laidlaw should include the following:

1. Four to Six Pretests for Each Level. The number of pretests will be determined by the number of major breaks in the continuity of the instructional sequence. It will not be necessary to develop a pretest for each chapter, since many follow directly from the previous chapter. Essentially, all of the information which might be of value to the teacher can be obtained from posttest or criterion exercise instruments for the previous unit. Pretests should provide a comprehensive sample of behaviors that are prerequisite to the major skills developed in the chapter. The information obtained from the pretest should guide the teacher in determining the relative emphasis to be given any prerequisite behaviors which are reviewed prior to the introduction of new material. SWRL-developed pretests are recommended over Laidlaw pretests since the latter are entry tests focusing entirely on material previously presented in the program; prerequisite skills reviewed in the chapter are not tested.

2. En-route Assessment Devices for Each Major Outcome Introduced or Reviewed. A limited number of problems in the regular daily assignment will be identified which the teacher can review as a check on the progress of the pupil toward mastery of the outcome.

3. End-of-Unit Criterion Exercise for Each Unit. Each exercise should include at least one section for each of the major outcomes on

which instruction was provided in that unit. Approximately 4-5 items should be included for each individual outcome representing material which has been introduced or extended. One or two items should be included for each descriptor where previously mastered skills have been reviewed or maintained.

Each exercise should include a limited number of problems where computational skills which have been developed are applied to the solution of verbal problems. The format for all items on the criterion exercise should be multiple choice with at least some of the distractors representing typical errors which might be made on this type of problem.

SWRL-developed instruments are recommended over existing Laidlaw Chapter Tests for the following reasons:

(1) Laidlaw Chapter Tests are not clearly organized around instructional outcomes.

(2) Many outcome-areas are evaluated with fewer than 4 items per instrument.

(3) The constructed response format used with items is incompatible with machine scoring and remedial practice based on typical errors.

(4) Separate tests are not provided for Grades K-2.

PRACTICE COMPONENTS

Appropriate practice materials should be developed as part of the LMS. If possible, existing practice activities from the student workbook will be incorporated into specifications for practice. Separate practice materials will be developed for K-2. Wherever

possible, supplementary practice should be specified in such a way that the teacher can select exercises on the basis of major types of errors committed.

SUPPORT COMPONENTS

Various support components, including a technical manual and appropriate record keeping materials will also be provided.

APPENDIX A

DESCRIPTION OF LAIDLAW COMPONENTS

Laidlaw has designed the set of student's texts and accompanying teacher's editions to serve as the core of the mathematics program. A number of additional components, designated by the publishers as supplementary, are available as follows:

(1) Chapter tests-A battery of 13 chapter tests and two semester tests, averaging 28-30 items per test, is provided for each of Grades 3-6. One test is provided for each chapter to be used after regular instruction is completed. Items on all of the tests are parallel to problems provided for practice during regular instruction. Test items are not referenced to correlated pages in the student's text.

(2) Workbook-A workbook for each of Grades 3-6 provides approximately 128 pages of practice problems parallel to material in the student's text. Each practice page is designated for use after a specific page in the student's text.

(3) Spectrum-A self-instructional book is provided for each of Grades 3-6. Each book is divided into 11-13 sections which focus directly on major arithmetic skills. Spectrum books are independent of sequency in the regular text book. They contain an evaluation component that includes a pretest and posttest for each unit.

APPENDIX B

CONTENT ANALYSIS

LAIDLAW INSTRUCTIONAL OUTCOMES
KINDERGARTEN

CHAPTER PAGES	1 1 - 10	2 11 - 20	3 21 - 48	4 49 - 76	5 77 - 96	6 97 - 114	7 115 - 127
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Identify the larger or smaller of two objects	1(6)[a]						
2. Show that two sets are equivalent							
By matching the members one-to-one	7,9(10)	15(10)					
By using their number properties			29,31(10)				
3. Associate the cardinal number of sets with numerals, and words							
A set of one, the numeral 1, and the word "one"	1	11,13(10)					
A set of two, the numeral 2, and the word "two"			21,23,25, 27(10)				
A set of three, the numeral 3, and the word "three"				49,51,53, 55(10)			
A set of four, the numeral 4, and the word "four"					77,79,81 (10)		
A set of five, the numeral 5, and the word "five"						97,99,101 (10)	
A set of six, the numeral 6, and the word "six"							115(5)
A set of seven, the numeral 7, and the word "seven"							117(5)
A set of eight, the numeral 8, and the word "eight"							119(5)
A set of nine, the numeral 9, and the word "nine"							121(5)
A set of ten, the numeral 10, and the word "ten"							123,125 (8)

[a] Numerals refer to student pages in teacher's edition. Numeral in parentheses indicates the number of problems (to 10) in the chapter in which principal practice is on the outcomes described.

LAIDLAW INSTRUCTIONAL OUTCOMES
KINDERGARTEN

CHAPTER PAGES	1 1 - 10	2 11 - 20	3 21 - 48	4 49 - 76	5 77 - 96	6 97 - 114	7 115 - 127
4. Recognize the natural order of numbers 1 to 3 1 to 5 1 to 10				57 (2)		113 (5)	127 (3)
5. Recognize ordinal numbers First to third First to fifth First to tenth				57 (2)		113 (1)	127 (3)
II. PERFORMING ARITHMETIC OPERATIONS 1. Make a set equivalent to a given set by adding a member A set of two A set of three A set of four		15, 19 (7)	33 (1)	61 (6)			
2. Make a set equivalent to a given set by removing a member A set of two A set of three A set of four		17, 19 (7)	39 (6)	67 (6)			
3. "Equalize" the cardinal number of a set with a given number by adding members to the set Numeral 2 Numeral 3 Numeral 4 Numeral 5			35 (6)	63 (6)	85 (6)	105 (6)	

LAIDLAW INSTRUCTIONAL OUTCOMES
KINDERGARTEN

CHAPTER PAGES	1 1 - 10	2 11 - 20	3 21 - 48	4 49 - 76	5 77 - 96	6 97 - 114	7 115 - 127
4. "Equalize" the cardinal number of a set to a given number by removing members from the set							
Numeral 2			41(6)				
Numeral 3				69(6)			
Numeral 4					89(6)		
Numeral 5						109(6)	
5. Perform arithmetic operations with numbers							
Addition algorithms							
--Combinations of 2			37(9)				
--Combinations of 3				59,65(10)			
--Combinations of 4					83,87(10)		
--Combinations of 5						103,107 (10)	
Subtraction algorithms							
--Combinations of 2			43(9)				
--Combinations of 3				71(10)			
--Combinations of 4					91(9)		
--Combinations of 5						111(10)	
6. Recognize the commutative property of addition				65(10)			
III. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify geometric figures							
Circles	3-5(10)						
--In functional settings	5(4)						
Squares			45,47(10)				
Rectangles				73,75(10)			
Triangles					93,95(10)		

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER	1	2	3	4	5	6	7
PAGES	1 - 19	20 - 37	38 - 56	57 - 77	78 - 90	91 - 110	111 - 128
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize a collection of similar objects as a set	7-8(10)						
2. Identify a specified set within a set (subset)	9-10(10)						
3. Match the members of equivalent sets one-to-one							
Members of a set to members of another set	11-2(1)						
Members of a set to tally marks	13-4(10)						
Members of a set to members of several sets	15(1)						
4. Compare nonequivalent sets and identify							
Set with fewer members	16,18-9(4)						
Set with more members	15,18-9(8)						
5. Associate the cardinal number of a set with numerals (1,2...) and numeral words (one,two...)							
Numerals							
--1		20-1,29, 36-7(10)	44,51-4, 56(7)				
--2		23-4,29, 36-7(10)	44,51-4, 56(6)				
--3		26-7,29, 36-7(10)	44,52,56 (3)				
--4		30-1,36-7 (10)	44,51-2, 56(4)				
--5		33-4,36-7 (10)	44,52,56 (5)				
--6		38-9	44,51-2, 56(10)				

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER PAGES	1 1 - 19	2 20 - 37	3 38 - 56	4 57 - 77	5 78 - 90	6 91 - 110	7 111 - 128
--7			41-2,44, 51-2,56 (10)				
--8			45-6,51-2, 56(10)				
--9			48-9,51-2, 56(10)				
--0			53-4,56 (6)				
--10			57-9(10)				
Numeral words							
--"One"		22,29,36 (6)	56(1)				
--"Two"		25,29,36 (5)	56(1)				
--"Three"		28-9,36 (6)	56(1)				
--"Four"		32,36(4)	56(1)				
--"Five"		35-6(4)	44,56(2)				
--"Six"			40,44,56 (6)				
--"Seven"			43-4,56 (5)				
--"Eight"			47,56(4)				
--"Nine"			50,56(4)				
--"Zero"			55-6(4)				
--"Ten"			57-9(3)				
--Multiples of ten							
6. Associate the natural order of numbers with numerals							
0-10			52(4)	60-1(10)			
0-41							
0-99							

LMS MATH

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER / PAGES	1 1 - 19	2 20 - 37	3 38 - 56	4 57 - 77	5 78 - 90	6 91 - 110	7 111 - 128
7. Recognize relational symbols > <						91(4) 92(4)	
8. Compare numbers using relational symbols						93(10)	
9. Identify place-values of digits in a numeral							
10. Interpret set and number line representations of place-values Through 20 Through 29 Through 39 Through 49 Through 59 Through 69 Through 79 Through 89 Through 99							
11. Call numbers 2 to 9 by different names							
12. Relate fractional numbers to regions 1/2 1/3 1/4							
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Compare numerical expressions using relational symbols						94,100	

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER PAGES	1 1 - 19	2 20 - 37	3 38 - 56	4 57 - 77	5 78 - 90	6 91 - 110	7 111 - 128
III. PERFORMING ARITHMETIC OPERATIONS							
1. Interpret semiconcrete illustrations of operations							
Addition							
--Union of sets				62-4(10)			
--Number line				71-4(10)	82,86(7)	99(5)	
Subtraction							
--Removal of subsets				67-8(10)			
--Number line				75(5)	82,87(10)	99(5)	115(8)
2. Recognize properties of operations							
Commutative property of addition					79,84(10)	96,102 (10)	113,120-1(10)
Associative property of of addition							
3. Perform arithmetic operations							
Addition							
--Combinations of 3				65,70,76-7 (10)			
--Combinations of 4					78-80(10)		
--Combinations of 5					83-4,88-90(10)		
--Combinations of 6						95-7,99-100(10)	
--Combinations of 7						101-2,105, 106-110 (10)	
--Combinations of 8							111-2,114, 116-7(10)
--Combinations of 9							118-9, 124-8(10)
--Combinations of 10							
--Combinations greater than 10							
--Vertical form				69(3)			
--Horizontal form				69(3)			

LMS MATH

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER PAGES	1 1 - 19	2 20 - 37	3 38 - 56	4 57 - 77	5 78 - 90	6 91 - 110	7 111 - 128
--1-digit with 2-digit numerals							
--1-digit with 2-digit multiples of 10							
--Two 2-digit multiples of 10							
--Two 2-digit numerals							
--Three 1-digit numerals							
Subtraction							
--As inverse of addition.				66(4)	82(6)	99,104(10)	113,116, 123(10)
--Combinations of 3				67,70,76- 7(10)			
--Combinations of 4					81-2,88-90 (10)		
--Combinations of 5					85,88-90 (10)		
--Combinations of 6							
--Combinations of 7						98-100(10) 103,107- 110(10)	
--Combinations of 8							
--Combinations of 9							115-7(10) 122,125-8 (10)
--Combinations of 10							
--Combinations greater than 10							
--Vertical form				69(3)			
--Horizontal form				69(3)			
--1-digit from 2-digit numerals							
--1-digit from 2-digit multiples of 10							
--Two 2-digit numerals							
4. Construct and use addition tables						105-6(10)	124(10)

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER	1	2	3	4	5	6	7
PAGES	1 - 19	20 - 37	38 - 56	57 - 77	78 - 90	91 - 110	111 - 128
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Recognize points and line segments							
2. Identify two-dimensional figures							
Rectangles and rectangular regions	1-3,6(10)						
Squares and square regions	1,3,6(10)						
Circles and circular regions	1,4,6(10)						
Triangles and triangular regions	5,6(9)						
V. SOLVING VERBAL PROBLEMS							
1. Solve verbal problems involving arithmetic operations							
Addition							
Subtraction							
2. Solve verbal problems related to money							
VI. PERFORMING MEASUREMENTS							
1. Recognize units of measurement							
Money							
--Penny							
--Nickel							
--Dime							
Time							
--Hour							
Length							
--Inch							

LMS MATH

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER	1	2	3	4	5	6	7
PAGES	1 - 19	20 - 37	38 - 56	57 - 77	78 - 90	91 - 110	111 - 128
2. Determine the value of a set of coins							
3. Tell the time to the hour							
4. Measure line segments							

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER	8	9	10	11	12	13	14
PAGES	129 - 155	156 - 172	173 - 184	185 - 205	206 - 212	213 - 231	232 - 256
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize a collection of similar objects as a set							
2. Identify a specified set within a set (subset)							
3. Match the members of equivalent sets one-to-one							
Members of a set to members of another set							
Members of a set to tally marks							
Members of a set to members of several sets							
4. Compare nonequivalent sets and identify							
Set with fewer members							
Set with more members							
5. Associate the cardinal number of a set with numerals (1,2...) and numeral words (one,two...)							
Numerals							
--1							
--2							
--3							
--4							
--5							
--6							
--7							
--8							
--9							
--0							
--10							

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 1

CHAPTER	8	9	10	11	12	13	14
PAGES	129 - 155	156 - 172	173 - 184	185 - 205	206 - 212	213 - 231	232 - 256
Numeral words							
--"One"							
--"Two"							
--"Three"							
--"Four"							
--"Five"							
--"Six"							
--"Seven"							
--"Eight"							
--"Nine"							
--"Zero"							
--"Ten"							
--Multiples of ten	151(10)						
6. Associate the natural order of numbers with numerals							
0-10							
0-41	141-2(10)						
0-99	150,152(10)						
7. Recognize relational symbols							
>							
<							
8. Compare numbers using relational symbols	153(10)						
9. Identify place-values of digits in a numeral	134,137,140, 143,146,154-5(10)						
10. Interpret set and number line representations of place-values							
Through 20	129-135(10)						
Through 29	136(10)						
Through 39	138(10)						
Through 49	139(10)						

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CHAPTER	8	9	10	11	12	13	14
PAGES	129 - 155	156 - 172	173 - 184	185 - 205	206 - 212	213 - 231	232 - 256
Through 59	144(10)						
Through 69	145(10)						
Through 79	147(10)						
Through 89	148(10)						
Through 99	149(10)						
11. Call numbers 2 to 9 by different names				185-7(10)			
12. Relate fractional numbers to regions							
1/2					207,209, 212(10)		
1/3					208-9,212 (10)		
1/4					210-2(10)		
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Compare numerical expressions using relational symbols							
III. PERFORMING ARITHMETIC OPERATIONS							
1. Interpret semiconcrete illustrations of operations							
Addition							
--Union of sets							
--Number line			179(10)				
Subtraction							
--Removal of subsets							
--Number line			180-1(10)				

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CHAPTER PAGES	8 129 - 155	9 156 - 172	10 173 - 184	11 185 - 205	12 206 - 212	13 213 - 231	14 232 - 256
2. Recognize properties of operations							
Commutative property of addition			175(10)			225(8)	235,244 (10)
Associative property of addition						215-6(10)	
3. Perform arithmetic operations							
Addition							
--Combinations of 3							
--Combinations of 4							
--Combinations of 5							
--Combinations of 6							
--Combinations of 7							
--Combinations of 8							
--Combinations of 9							
--Combinations of 10			173-4, 182-4(10)			218(10)	
--Combinations greater than 10							
--Vertical form						222,225 231(10)	233-4,242-4,251,256 (10)
--Horizontal form						220-4(10)	233-4,240-3,249,252, 256(10)
--1-digit with 2-digit numerals				191-2,195, 199(10)		219(6)	
--1-digit with 2-digit multiples of 10				196-8(10)			
--Two 2-digit multiples of 10				196-9(10)			
--Two 2-digit numerals				200-1,204-5(10)			
--Three 1-digit numerals						213-7(10)	
Subtraction							
--As inverse of addition			178(10)			229-30 (10)	238-9,247-8(10)

CHAPTER PAGES	8 129 - 155	9 156 - 172	10 173 - 184	11 185 - 205	12 206 - 212	13 213 - 231	14 232 - 256
--Combinations of 3							
--Combinations of 4							
--Combinations of 5							
--Combinations of 6							
--Combinations of 7							
--Combinations of 8							
--Combinations of 9							
--Combinations of 10			176-7,182-4 (10)				
--Combinations greater than 10							
--Vertical form						229-31(10)	238-9,247-8,253,256 (10)
--Horizontal form						226-8(10)	236-7,240, 245-6,249, 252,256 (10)
--1-digit from 2-digit numerals				193-5,199 (10)		219(10)	
--1-digit from 2-digit multiples of 10				197-9(10)			
--Two 2-digit numerals				197-9,202-5(10)			
4. Construct and use addition tables							250-1(10)
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Recognize points and line segments		165(4)					
2. Identify two-dimensional figures		165(4)					
Rectangles and rectangular regions		167,170 (6)					

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CHAPTER / PAGES	8 129 - 155	9 156 - 172	10 173 - 184	11 185 - 205	12 206 - 212	13 213 - 231	14 232 - 256
Squares and square regions		168,170(6)					
Circles and circular regions		169-70(8)					
Triangles and triangular regions		170(3)					
V. SOLVING VERBAL PROBLEMS							
1. Solve verbal problems involving arithmetic operations							
Addition				188,190(6)			254(4)
Subtraction				189-90(6)			255(4)
2. Solve verbal problems related to money		161(4)					
VI. PERFORMING MEASUREMENTS							
1. Recognize units of measurement							
Money							
--Penny		156(1)					
--Nickel		156(2)					
--Dime		159(1)					
Time							
--Hour		162-4(10)					
Length							
--Inch		166(5)					
2. Determine the value of a set of coins		156-60, 171-2(10)					
3. Tell the time to the hour		162-4,171-2(10)					
4. Measure line segments		166-9,171-2(10)					

LAIDLAW INSTRUCTIONAL OUTCOMES
GRADE 2

CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Associate the cardinal number of sets							
Numerals and words	3-5(10)						
2. Read and write fractions in common form							
3. Count and order numbers							
Counting objects	1(1)						
Rearranging numerals in a counting sequence							
--By ones			43-44,48(10)				
--By tens							
--By hundreds							
4. Identify place values of digits							
Tens and ones			38-40,47;49 (10)				
Hundreds, tens and ones							
5. Convert numerals to equivalent forms							
Standard-expanded			41-42,45-47, 49(10)				119(10)
6. Recognize set concepts related to numbers							
Non-equivalent sets	9(4)						
Equivalent sets	8(5)						
7. Represent numbers by concrete or semiconcrete devices							
Whole numbers							
--Sets	3-5,8-9, 16-17(10)						
--Points on number line	18(4)						
Fractional numbers							
--Regions							

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CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
8. Identify ordinal numbers	6-7 (9)						
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Recognize relational symbols <, >, =	16-17 (7)						
2. Compare numbers using relational symbols	10,18-9 (10)	27 (5)			71 (6)		
3. Compare numerical expressions using symbols <, >, =					67 (10)		
4. Simplify numerical expressions							
Simplest numeral for a number		31 (4)					
III. PERFORMING MATHEMATICAL OPERATIONS							
1. State basic operation facts							
Addition-subtraction through sums to 10	12,13,15, 22-25,27-35 (10)						
Addition-subtraction through sums to 18							
--Sums of 10						84-5,89 (10)	
--Sums of 11						92-94 (10)	
--Sums of 12						95-97 (10)	
--Sums of 13						98-100 (10)	
--Sums of 14						102-04 (10)	
--Sums of 15						106-07 (10)	
--Sums of 16						108-09 (6)	
--Sums of 17						110-11 (4)	
--Sums of 18						110-11 (4)	
--Practice						101,112-13 (10)	123 (10)

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CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
Concept of "one more" Multiplication-division through 5 x 9 --Multiples of 2 --Multiples of 3 --Multiples of 4 --Multiples of 5 --Practice							
2. Represent operations by concrete or semi-concrete devices Addition of whole numbers --Joining sets --Number line Subtraction of whole numbers --Separating sets --Number line Multiplication of whole numbers --Adding equivalent sets --Number line Taking a fractional part of a number --Sets					64,66(10) 68,70(10)	102-103(4) 108(3) 102-103(4) 108(3)	
3. Recognize properties of arithmetic operations Addition-subtraction --Associative property of addition --Inverse relationships between addition-subtraction Multiplication-Division --Commutative property of multiplication --Multiplying by one (identity)	11(2)					86-87(10)	

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	CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
	--Multiplying by zero							
4.	Perform arithmetic operations with whole numbers							
	Addition algorithms							
	--2-digits with 1,2-digit numerals							
	--Place value tables with renaming							127-128, 132-3(10)
	--Standard form with no renaming					64-67,74-5, 79(10)		
	--Standard form with renaming							128-9,133-135(10)
	--Equation form					66(10)		122(8)
	--Expanded form							120-1,124-5(10)
	--3-digits with 1,2,3-digit numerals							
	--Place value tables with no renaming							
	--Adding by tens					72(10)		118,130 (10)
	--Three or more addends						88(10)	
	Subtraction algorithms							
	--1, 2-digits from 2-digit numerals							
	--Place value tables with no renaming							
	--Place value tables with renaming							

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CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
--Standard form with no renaming					68-71,76-79(10)		
--Standard form with renaming							
--Equation form					70(10)		
--Expanded form							
Subtracting by tens					73(10)		
--1,2,3-digits from 3-digit numerals							
--Place value tables with no renaming							
--Standard form with no renaming							
Multiplication algorithms							
--Repeated addition							
5. Perform arithmetic operations with fractions in a/b form							
Taking a fractional part of a whole number							
--1/2							
--1/3							
--1/4							
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures and concepts							
Line segments				50-54(10)			
Naming line segments				50-54(10)			
Angles							
--Right angles				56-7(5)			
Closed figure				52-3,55(9)			
Open figure				53,55(5)			

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CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
2. Identify two-dimensional figures Triangles Rectangles Squares Circles				55,63(3) 57,63(3) 61,63(3)			
3. Construct geometric figures Line segments Triangles				50-53(10) 54(3)			
V. SOLVING VERBAL PROBLEMS 1. Solve verbal problems related to arithmetic operations Taking a fractional part of a number							
2. Solve verbal problems related to special topics Money --Making change Time						83(6)	117(3)
3. Solve verbal problems by using special techniques Equations							114-115(5)
VI. PERFORMING MEASUREMENTS 1. Recognize and interrelate units of measurement Money --Coins through half-dollars Liquid measure --Pints --Quarts --Gallons						80-82(10)	

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CHAPTER PAGES	1 1 - 23	2 24 - 35	3 36 - 49	4 50 - 63	5 64 - 79	6 80 - 113	7 114 - 135
2. Determine the measure of Line segments --Nearest unit --Nearest inch Time --Nearest hour --Nearest 5 minutes				58(5) 59-63(10)			116(6)
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS 1. Decode sequences --Numerical --Geometric							

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CHAPTER PAGES	8 136 - 154	9 155 - 175	10 176 - 193	11 194 - 211	12 212 - 243	13 244 - 256
I. IDENTIFYING NUMBERS AND NUMERALS						
1. Associate the cardinal number of sets Numerals and words						
2. Read and write fractions in common form		164,168-169, 175(10)				
3. Count and order numbers Counting objects Rearranging numerals in a counting sequence --By ones --By tens --By hundreds			 183,189,193(10) 190,193(10) 191,193(10)			
4. Identify place values of digits Tens and ones Hundreds, tens and ones			 177-179(10)			
5. Convert numerals to equivalent forms Standard-expanded	138-139(10)		180-182,185,187- 188,192(10)			
6. Recognize set concepts related to numbers Non-equivalent sets Equivalent sets						
7. Represent numbers by concrete or semi-concrete devices Whole numbers --Sets --Points on number line Fractional numbers --Regions		161-169(10)				

CHAPTER PAGES	8 136 - 154	9 155 - 175	10 176 - 193	11 194 - 211	12 212 - 243	13 244 - 256
8: Identify ordinal numbers						
II. EXPRESSING NUMERICAL RELATIONSHIPS 1. Recognize relational symbols <, >, =						
2. Compare numbers using relational symbols	146,150(10)					
3. Compare numerical expressions using symbols <, >, =						
4. Simplify numerical expressions Simplest numeral for a number	136-7(7)					
III. PERFORMING MATHEMATICAL OPERATIONS 1. State basic operation facts Addition-subtraction through sums to 10						

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CHAPTER	8	9	10	11	12	13
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Addition-subtraction through sums to 18						
--Sums of 10						
--Sums of 11						
--Sums of 12						
--Sums of 13						
--Sums of 14						
--Sums of 15						
--Sums of 16						
--Sums of 17						
--Sums of 18						
--Practice						
Concept of "one more"			186(6)			
Multiplication-division through 5 x 9						
--Multiples of 2					218-221(10)	
--Multiples of 3					222-226(10)	
--Multiples of 4					227-231(10)	
--Multiples of 5					232-235(10)	
--Practice					240-243(10)	
2. Represent operations by concrete or semi-concrete devices						
Addition of whole numbers						
--Joining sets						
--Number line						
Subtraction of whole numbers						
--Separating sets						
--Number line						
Multiplication of whole numbers						
--Adding equivalent sets					212-217,222, 227-229(10)	
--Number line					218-219,224-225,233(10)	

CHAPTER PAGES	8 136 - 154	9 155 - 175	10 176 - 193	11 194 - 211	12 212 - 243	13 244 - 256
Taking a fractional part of a number --Sets		170-175(10)				
3. Recognize properties of arithmetic operations Addition-subtraction --Associative property of addition --Inverse relationships between addition-subtraction Multiplication-division --Commutative property of multiplication --Multiplying by one (identity) --Multiplying by zero					224-5(10) 237-8(9) 239(3)	
4. Perform arithmetic operations with whole numbers Addition algorithms --2-digits with 1,2-digit numerals --Place value tables with renaming --Standard form with no renaming --Standard form with renaming --Equation form --Expanded form --3-digits with 1,2,3-digit numerals --Place value tables with no renaming	153-4(10) 153-4(10)			194,196,198, 202,204,206, 208(10)		

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CHAPTER PAGES	8 136 - 154	9 155 - 175	10 176 - 193	11 194 - 211	12 212 - 243	13 244 - 256
--Standard form with no renaming				194,196,198, 200,201-2, 204,206,208, 210-11(10)		
--Adding by tens						
--Three or more addends						
Subtraction algorithms						
--1,2-digits from 2-digit numerals						
--Place value tables with no renaming	148(8)					
--Place value tables with renaming	144-5,149 (10)					
--Standard form with no renaming	140,146-7, 150-154(10)					
--Standard form with renaming	145-7,149, 150-154(10)					
--Equation form						
--Expanded form	142(3)					
--Subtracting by tens						
--1,2,3-digits from 3-digit numerals						
--Place value tables with no renaming				195,197,199, 203,205,207, 209(10)		
--Standard form with no renaming				195,197,199, 200,201,203, 205,207,209, 210-11(10)		
Multiplication algorithms						
--Repeated addition					214-217(10)	
5. Perform arithmetic operations with fractions in a/b form						
Taking a fractional part of a whole number						
--1/2		171,175(8)				

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CHAPTER	8	9	10	11	12	13
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--1/3		172,175(10)				
--1/4		173,175(8)				
IV. DESCRIBING GEOMETRIC CONCEPTS						
1. Identify basic figures and concepts						
Line segments						
Naming line segments						
Angles						
--Right angles						
Closed figure						
Open figure						
2. Identify two-dimensional figures						
Triangles						
Rectangles						
Squares						
Circles		155-157(3)				
3. Construct geometric figures						
Line segments						
Triangles						
V. SOLVING VERBAL PROBLEMS						
1. Solve verbal problems related to arithmetic operations taking a fractional part of a number		174(3)				
2. Solve verbal problems related to special topics						
Money						
--Making change						
Time						

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CHAPTER PAGES	8 136 - 154	9 155 - 175	10 176 - 193	11 194 - 211	12 212 - 243	13 244 - 256
3. Solve verbal problems by using special techniques Equations					220,230, 234(9)	
VI. PERFORMING MEASUREMENTS 1. Recognize and interrelate units of measurement Money --Coins through half-dollars						245,247, 255(10)
Liquid measure --Pints						253-4(3)
--Quarts						253-4(3)
--Gallons						253-4(3)
2. Determine the measure of Line segments --Nearest unit						
--Nearest inch						
Time --Nearest hour						
--Nearest 5 minutes						249-252,255-256(10)
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS 1. Decode sequences						
--Numerical		159-60(10)				244(9)
--Geometric		158(4)				

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CHAPTER / PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Associate the cardinal number of sets, numerals and words	9(10) 1-2(10)[b]						
2. Read and write fractions in common form							
3. Count and order numbers							
Counting man model			49-51,55, 61(10)				
Rearranging numerals in a counting sequence							
--By tens			66(6)				
--By hundreds			66(6)				
--By thousands			66(6)				
--Least to greatest			65(6) 26(3)/CT(5)[c]				
4. Identify place values of digits							
Tens and ones			20-23(10)/ CT(1)				
Hundreds, tens and ones			25-6(10)/ CT(1)				
Thousands, hundreds, tens and ones			27-8(10)/ CT(1)				
5. Convert numerals to equivalent forms (S)*							
Whole numbers							
--Standard-expanded-word			51-8,61-8 (10) 20-9(10)/ CT(10)				

[b] Numerals that are underlined refer to pages and corresponding number of items in student workbook.

[c] Numerals preceded by CT refer to the number of items on the chapter test (independent battery of chapter tests) which involve primarily the outcome described.

* (S) Designation indicates that a large block of practice problems is provided in the Spectrum book for this Level.

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CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
Fractional numbers --Equivalent fractions in a/b form Base ten numerals to Roman numerals through XI		45(10) 18(8)/CT(2)					
6. Identify special sets of numbers Odd and even numbers		46(6) 18(5)/CT(2)					
7. Recognize set concepts related to numbers n( ) notation	5-10(10) 1-2(10)						
Relating sets using <, >, =	1(10)/CT(10)						
Special sets --Empty sets		27(2)					
--Subsets	18(4)				107(1)		
--Non-equivalent sets	7(2)						
--Equivalent sets	6,8,9(10) 2(3)				99-100(5)		145(4)
--Replacement sets		39,41(10) 16(2)					
8. Represent numbers by concrete or semi-concrete devices Whole numbers --Sets	5-10(10)						
Fractional numbers in common form --Sets and regions --Points on number line							

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CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify related symbols <, >, =, ( )		37(6) 15(4)/CT(4)					
2. Recognize related terms							
Addend	11(6)						
Sum	11(6)						
Subtrahend	19(4)						
Minuend	19(4)						
Difference	19(4)						
Factor					100(1)		
Product					100(1)		
Divisor							156(1)
Dividend							156(1)
3. Compare numbers using relational symbols <, >, =							
Whole numbers		41(8)					
Fractional numbers							
4. Compare numerical expressions using relational symbols <, >, =		41(10) 16(10)/CT(2)					
5. Identify open and closed sentences							
Open sentences	15-17(10) 5(2)/CT(1)						
Closed sentences	15-17(10) 5(4)/CT(1)						

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CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
6. Solve number sentences by finding missing digits							
7. Complete number sentences using +, -, x, ÷							151(8)
8. Write number sentences using							
Addition-subtraction	3-4,7(10)	10(10)					
Multiplication-division							145,153(10) 61-5(10)/ CT(4)
III. PERFORMING MATHEMATICAL OPERATIONS							
1. State basic operation facts (S)							
Addition-subtraction through sums to 10	11,12,14, 19,22,23, (10) 3-4,6-7(10)/ CT(8)	28,29,33, 34(10) 10-12,14-5 (10)					
Addition-subtraction through sums to 18			53(10)	72-74,76, 78,81(10) 31-33(10)			
Multiplication-division through 10 x 10							
--Multiples of 2					105(10)		
--Multiples of 3 and 4					44(5) 108-9(10)		
--Multiples of 5 and 6					45(10) 110-11(10)		
--Multiples of 7 and 8					46(10) 114(10)		
--Multiples of 9					46(5) 115(10) 46(5)		

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 25	26 - 47	48 - 69	70 - 97	98 - 123	124 - 143	144 - 167
--Multiples of 10					117(10) 46(5)		163(8)
--Practice							149,151, 155(10) 63-6(10)/ CT(8)
--Missing factor							151,153(10)
2. Represent operations by concrete or semi-concrete devices							
Addition of whole numbers							
--Joining sets	3(6)						
--Number line		31(3) 12(5)/CT(2)		76(1)			
Subtraction of whole numbers							
--Separating sets	19,22(2) 6(2)	29,32(9)					
--Number line		31(3) 12(5)/CT(2)		74,76(3)			
Multiplication of whole numbers							
--Adding equivalent sets					99-106(10)		145(3)
--Number line					110(2)		155(1)
Division of whole numbers							
--Separating equivalent subsets							147,150, 152,154(4) 61,64(6)
--Number line							155,159, 160(5) 65(10)

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 25	26 - 47	48 - 69	70 - 97	98 - 123	124 - 143	144 - 167
3. Recognize properties of arithmetic operations							
Addition-subtraction							
--Associative property of addition		36,38,43(1) 15(10)/CT (8)					
--Commutative property of addition	13(10) 4(4)	43(1)					
--Identity (zero)	22(10) 7(1)	27(10)/CT (1)					
--Inverse relationship between addition-subtraction	20,21(10) 7(1)	32(10) 13(2)/CT (2)					
Multiplication-division							
--Associative property of multiplication					113(10) 47(10)		
--Commutative property of multiplication					103(8) 43(10)		
--Identity (one)					106(10) 44(10)		
--Multiplying by zero					107(10) 44(10)		
--One in division							159,161(8) 67(10)
--Zero in division							160-61(8) 67(10)
--Inverse relationship between multiplication-division							148-150(6) 62(10)
--Distributive property of multiplication over addition					120(6) 50(3)/CT (2)		
--Distributive property of multiplication over subtraction					122(2) 50(3)		
--Distributive property of division over addition							163-4(10) 69(2)

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 25	26 - 47	48 - 69	70 - 97	98 - 123	124 - 143	144 - 167
4. Perform arithmetic operations with whole numbers (S)							
Addition algorithms							
--2-digit with 1,2-digit numerals							
--Standard form with no renaming				82,85-87 (10)			
--Standard form with renaming				37 (10) 91-3 (10) 39 (10)/CT (10)			
--Adding tens				83 (10) 35 (10)		125 (10) 52 (6)	
--Expanded form				36-7 (8)			
--3-digit with 1,2,3-digit numerals							
--Standard form with no renaming						129 (10)	
--Standard form with renaming						131,135, 137 (10) 54,56,58 (10)/CT (9)	
--Adding hundreds						127 (10)	
--Expanded form						52,54,56 (3)	
--4-digit with 1,2,3,4-digit numerals							
--Place value tables with renaming							
--Standard form with renaming							
--Adding thousands							
--Three or more addends		37-38 (10)		87 (9) 37 (6) 79 (10)		56 (6)	
--Checking addition				34 (10)/CT (10)			

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CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
Subtraction algorithms							
--1,2-digits from 2-digit numerals							
--Standard form with no renaming				82,83,89(10)			
--Standard form with renaming				38(10) 95(10) 40(10)/CT (10)			
--Subtracting tens				83(6) 35(10) 38,40(1)		52-3(6)	
--Expanded form							
--1,2,3-digits from 3-digit numerals							
--Standard form with no renaming						130(10)	
--Standard form with renaming						53(10) 133,136-41 (10) 55,57-59 (10)/CT(9)	
--Subtracting hundreds						127(10)	
--Expanded form						52,55,57 (3)/CT(3)	
--1,2,3,4-digits from 4-digit numerals							
--Place value tables with renaming							
--Standard form with renaming							
--Subtracting thousands							
--Checking subtraction				79(10) 40(10)/CT (10)			
Multiplication algorithms							
--Repeated addition					99-103(10) 42-3(10)/CT (7)		
--2-digit factors with 1,2-digit factors							

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CHAPTER-PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
--Standard form with renaming							
--Multiplying with multiples of 10							
--Equation form					121-2(10)		
--Expanded form							
Division algorithms							
--Repeated subtraction							154(6) 65(4)
--2-digit dividends by 1-digit divisors							
--Missing factor							
--Standard (long) form with no renaming							157,166(10)
--Standard (long) form with renaming							68-9(10)/CT(10)
--Equation form							
--Expanded form							163-5(10) 68-9(10)/CT(8)
--Remainders							
--3-digit dividend by 1-digit divisors							
--Standard (long) form with renaming							
--Remainders							
--Checking division							166(10)
5. Perform arithmetic operations with fractional numbers in a/b form							
Adding fractional numbers with common denominators							
Subtracting fractional numbers with common denominators							

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CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
Taking a fractional part of a whole number							
6. Estimate the outcome of operations							
Multiplication							
Division							
7. Recognize set operations							
Union	10(10) 3(6)	35(6)			99(1)		
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures and concepts							
Points							
Lines							
Line segments							
Rays							
Angles							
--Vertex of an angle							
--Interior of an angle							
--Exterior of an angle							
--Right angle							
Open figures							
Closed figures							
Inside							
Outside							
2. Identify two-dimensional figures							
Triangles							
Right triangles							
Squares							
Rectangles							
Circles							

CHAPTER PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
--Center of a circle --Radius --Diameter --Interior of a circle --Exterior of a circle							
3. Identify three-dimensional figures Cube --Faces --Edges --Vertex							
4. Construct geometric figures Line segments Rays Closed and open figures Triangles Circles							
V. SOLVING VERBAL PROBLEMS 1. Translate verbal problems to number sentences	17,24(10) 5,8(10)/CT(2)	43(10) 13,17(8)/CT(3)		32,37(3)/CT(5)	119(8) 46,49(7)/CT(2)	CT(3)	147(6) 61,63,66(7)/CT(4)
2. Solve verbal problems related to arithmetic operations Addition-subtraction of whole numbers	16,17,24(10) 5,8(10)/CT(2)	37,41-3(10)/CT(3)		32,37(3)/CT(5)		142(4)/CT(3)	
Multiplication-division of whole numbers					119(8) 46,49(7)/CT(2)		61,63,66(7)/CT(4)

LAIDLAW INSTRUCTIONAL OUTCOMES
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CHAPTER / PAGES	1 5 - 25	2 26 - 47	3 48 - 69	4 70 - 97	5 98 - 123	6 124 - 143	7 144 - 167
Operations with fractional numbers							
3. Solve verbal problems related to special topics							
Tables				96 (8)			
Measurement							
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--Inches							
--Feet							
--Yards							
Liquid measure							
--Cups							
--Pints							
--Quarts							
--Gallons							
Money							
--Coins through half-dollars							
--Dollar bills							
Calendar							
--Days							
--Weeks							
--Months							
Temperature (degrees)							
Time							
--Seconds							
--Minutes							
--Hours							

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 25	26 - 47	48 - 69	70 - 97	98 - 123	124 - 143	144 - 167
2. Determine the measure of Length of line segments and objects --Nearest unit --Nearest inch --Nearest 1/2 inch Perimeter --Polygons --Squares --Rectangles Area --Counting square units in regular figures --Calculating area of rectangles --Estimating square units in irregular figures Volume --Counting cubic units in regular solids Temperature (degrees) Time --Nearest minute							
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS 1. Decode sequences --Numerical			59(10) 24-5(10)/ CT(5)				
CHAPTER REVIEWS ("Checkup")	25(10) 9(10)	47(10) 19(10)	69(10) 30(10)	97(10) 41(10)	123(10) 51(10)	143(10) 60(10)	167(10) 70(10)

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CHAPTER PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14** 295 - 328
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Associate the cardinal number of sets, numerals and words							
2. Read and write fractions in common form				241(10) 102-3(10)			
3. Count and order numbers Counting man model Rearranging numerals in a counting sequence --By tens --By hundreds --By thousands --Least to greatest							
4. Identify place values of digits Tens and ones Hundreds, tens and ones Thousands, hundreds, tens and ones	171(10) 71(10)						
5. Convert numerals to equivalent forms (S) Whole numbers --Standard-expanded-word Fractional numbers --Equivalent fractions in a/b form Base ten numerals to Roman numerals through XI				242-3(10)/ CT(8)			X X

** Chapter 14 consists of review material for the entire level. An "X" designation opposite a descriptor indicates the inclusion of related exercises within the chapter.

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CHAPTER PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14 295 - 328
6. Identify special sets of numbers							
Odd and even numbers							
7. Recognize set concepts related to numbers							
n( ) notation							
Relating sets using <, >, =							X
Special sets							
--Empty sets							X
--Subsets							
--Non-equivalent sets							X
--Equivalent sets							X
--Replacement sets							X
8. Represent numbers by concrete or semi-concrete devices							
Whole numbers							
--Sets							X
Fractional numbers in common form							
--Sets and regions				240-244 (10) 102-4 (10)/ CT (6)			X
--Points on number line				243, 252 (10) 103, 109 (10)			
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify related symbols <, >, =, ( )							
2. Recognize related terms							
Addend							
Sum							X
Subtrahend							

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CHAPTER PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14 295 - 328
Minuend Difference Factor Product Divisor Dividend							
3. Compare numbers using relational symbols <, >, = Whole numbers Fractional numbers		198 (6)		252 (8) 109 (10)			
4. Compare numerical expressions using relational symbols <, >, =		198-9 (6) 84 (10)					X
5. Identify open and closed sentences Open sentences Closed sentences							X X
6. Solve number sentences by finding missing digits		198-9 (10)					
7. Complete number sentences using =, -, x, ÷		199 (10)					
8. Write number sentences using Addition-subtraction Multiplication-division							

CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
III. PERFORMING MATHEMATICAL OPERATIONS							
1. State basic operation facts (S)							
Addition-subtraction through sums to 10							X
Addition-subtraction through sums to 18							
Multiplication-division through 10 x 10							
--Multiples of 1							
--Multiples of 3 and 4							X
--Multiples of 5 and 6							X
--Multiples of 7 and 8							X
--Multiples of 9							X
--Multiples of 10		189-191 (10)					X
--Practice							
--Missing factor							
2. Represent operations by concrete or semi-concrete devices							
Addition of whole numbers							
--Joining sets							
--Number line							X
Subtraction of whole numbers							
--Separating sets							
--Number line							X
Multiplication of whole numbers							
--Adding equivalent sets							
--Number line							
Division of whole numbers							
--Separating equivalent subsets							
--Number line							

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
3. Recognize properties of arithmetic operations							
Addition-subtraction							
--Associative property of addition							
--Commutative property of addition							X
--Identity (zero)							X
--Inverse relationship between addition-subtraction							X
Multiplication-division							
--Associative property of multiplication							
--Commutative property of multiplication							X
--Identity (one)							
--Multiplying by zero							
--One in division							X
--Zero in division							X
--Inverse relationship between multiplication-division							X
--Distributive property of multiplication over addition		195(10) 82(10)					X
--Distributive property of multiplication over subtraction							X
--Distributive property of division over addition							
4. Perform arithmetic operations with whole numbers (S)							
Addition algorithms							
--2-digit with 1,2-digit numerals							
--Standard form with no renaming							X

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
--Standard form with renaming							X
--Adding tens							
--Expanded form							
--3-digit with 1,2,3-digit numerals							
--Standard form with no renaming							X
--Standard form with renaming							X
--Adding hundreds							
--Expanded form							
--4-digit with 1,2,3,4-digit numerals							
--Place value tables with renaming							
--Standard form with renaming							X
--Adding thousands							
--Three or more addends	72-3,75(10)						
--Checking addition							
Subtraction algorithms							
--1,2-digits from 2-digit numerals							
--Standard form with no renaming							X
--Standard form with renaming							X
--Subtracting tens							
--Expanded form							
--1,2,3-digits from 3-digit numerals							
--Standard form with no renaming							X
--Standard form with renaming							X
--Subtracting hundreds							
--Expanded form							

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
--1,2,3,4-digits from 4-digit numerals							
--Place value tables with renaming	76-7(10)						
--Standard form with renaming	180-85(10) 76-7(10)/CT(10)						
--Subtracting thousands	177(10) 74(10)/CT(3)						
--Checking subtraction							
Multiplication algorithms							
--Repeated addition							X
--2-digit factors with 1,2-digit factors							
--Standard form with renaming		196(10) 83(10)/CT(10)					
--Multiplying with multiples of 10		189-191(10) 80(10)					
--Equation form							
--Expanded form		195(10)					
Division algorithms							
--Repeated subtraction							
--2-digit dividends by 1-digit divisors							
--Missing factor		202(10) 85(10)					X
--Standard (long) form with no renaming							
--Standard (long) form with renaming		204-6(10) 86,87(10)/CT(6)					X
--Equation form		203(10)					
--Expanded form							
--Remainders		217(10) 89(3)/CT(6)					X

CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
--3-digit dividend by 1-digit divisors							
--Standard (long) form with renaming		209-10,213 (10) 88(8)/CT(6)					X
--Remainders		215(10) 89(3)/CT(3)					X
--Checking division		212-13(10) 90(6)/CT(9)					X
5. Perform arithmetic operations with fractional numbers in a/b form							
Adding fractional numbers with common denominators				249(10) 106(10)/CT(4)			X
Subtracting fractional numbers with common denominators				250(10) 107(10)/CT(2)			X
Taking a fractional part of a whole number				245-47(10) 104-5(10)/CT(4)			
6. Estimate the outcome of operations							
Multiplication		202(10)					X
Division		203-205(10)					
7. Recognize set operations							
Union							

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures and concepts							
Points			221(3)				
Lines			93(4)/CT(1) 223(4)				X
Line segments			93(4)/CT(1) 223(6)				X
Rays			93(4)/CT(1) 225(3)				
Angles			94(2)/CT(1) 225(3)				
--Vertex of an angle			94(3)/CT(1) 224(1)				
--Interior of an angle			225(2)				
--Exterior of an angle			94(2) 225(2)				
--Right angle			94(2) 226(3)				
Open figures			95(10)/CT(2) 227(6)				X
Closed figures			96(5)/CT(1) 227(6)				X
Inside			96(5)/CT(1) 221,229(4)				
Outside			221,229(4)				
2. Identify two-dimensional figures							
Triangles			229(4) 97,100(8)/CT(1)			277(3) 120(3)	
Right triangles			228(1) 97,100(4)/CT(1)				

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CHAPTER PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14 295 - 328
Squares			232-33(2) 98,100(6)/CT(1)			277(3) 120(3)	
Rectangles			230-32(10) 98,100(7)/CT(1)			277(3) 120(3)	
Circles			234-35(5) 99,100(6)/CT(1)			277(3) 120(3)	X
--Center of a circle			234(1) 99(1)/CT(1)				
--Radius			235(6) 99(4)/CT(1)			283(3) 124(3)	
--Diameter			235(6) 99(4)/CT(1)			283(3) 124(3)	
--Interior of a circle			234(2)/CT(1)				
--Exterior of a circle			234(2)/CT(1)				
3. Identify three-dimensional figures							
Cube							
--Faces						290(1)	
--Edges						291(3)	
--Vertex						291(2)	
						291(3)	
4. Construct geometric figures							
Line segments			223(3) 93(2)				
Rays			225(2) 94(2)				
Closed and open figures			227(2) 96(2)				
Triangles			229(3) 97(2)				
Circles						283(5)	

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CHAPTER PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14 295 - 328
V. SOLVING VERBAL PROBLEMS							
1. Translate verbal problems to number sentences	78(4)/CT (4)	207,211, 218(10)/CT (5)					
2. Solve verbal problems related to arithmetic operations							
Addition-subtraction of whole numbers	186(5) 78(4)/CT(4)						
Multiplication-division of whole numbers		197,207,211, 218(10) 83,91(7)/ CT(5)					
Operations with fractional numbers				251(6) 108(6)/CT (6)			
3. Solve verbal problems related to special topics							
Tables					274(7) 116,118(9)	281(4) 123(5)/CT (2)	
Measurement							
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--Inches					257,260-1 (10)/112(6)/ CT(1)		X
--Feet					257,260-1 (10) 112(6)/CT(1)		X
--Yards					257,260-1(7)		X

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328
Liquid measure							
--Cups					262-3(5) 113(4)		X
--Pints					262-3(5) 113(4)/CT (1)		X
--Quarts					262-3(5) 113(4)/CT (1)		X
--Gallons					262-3(5) 113(4)/CT (1)		X
Money							
--Coins through half-dollars		192-3(10) 81(10)					X
--Dollar bills		192-3(5) 81(10)					
Calendar							
--Days					265(5) 114(1)		
--Weeks					265(5) 114(1)		
--Months					265(5) 114(1)		
Temperature (degrees)					271(8)		
Time							
--Seconds					269(2) 115(1)		
--Minutes					269(2) 115(1)/CT (1)		
--Hours					269(2) 115(1)		

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	CHAPTER / PAGES	8 170 - 187	9 188 - 219	10 220 - 237	11 238 - 253	12 254 - 275	13 276 - 294	14 295 - 328
2.	Determine the measure of Length of line segments and objects							
	--Nearest unit					255 (4)		
	--Nearest inch					256-7 (6)		X
						111 (9)/CT (3)		
	--Nearest 1/2 inch					258-9 (10)		
						111 (6)/CT (3)		
	Perimeter							
	--Polygons						278 (4)	X
							121 (9)/CT (3)	
	--Squares						280 (10)	
							122 (3)/CT (1)	
	--Rectangles						279 (2)	
							122 (3)	
	Area							
	--Counting square units in regular figures						285 (6)	
							125 (2)	
	--Calculating area of rectangles						287 (8)	
							125 (8)/CT (4)	
	--Estimating square units in irregular figures						288-9 (10)	
							126 (10)/CT (4)	
	Volume							
	--Counting cubic units in regular solids						293 (10)	
							127 (6)/CT (4)	
	Temperature (degrees)					271 (8)		
						116 (6)/CT (3)		
	Time							
	--Nearest minute					267-9 (10)		X
						115 (6)/CT (4)		

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CHAPTER	8	9	10	11	12	13	14
PAGES	170 - 187	188 - 219	220 - 237	238 - 253	254 - 275	276 - 294	295 - 328.
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS 1. Decode sequences --Numerical							
CHAPTER REVIEWS ("Checkup")	187 (10) 79 (10)	219 (10) 92 (10)	237 (10) 101 (10)	253 (10) 110 (10)	275 (10) 119 (10)	294 (10) 128 (10)	

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CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Set elements							
--Brace notation	5(4) 1(5) 7(4)						
--Members of a set	1(4)		59(1)				
--Subsets							
Set properties							
--Cardinal number of a set [n(A)]	8-9(10) 2(10)						
Special sets							
--Equal sets	2(9)						
--Equivalent sets	6,14(8) 1(4)						
--Nonequivalent sets	14(2)						
--Empty sets	8(2)						
2. Read and write numerals for cardinal (whole) numbers							
Use of periods				90-1(10) 36(10)/CT (3)			
3. Identify place values of digits in numerals				87-9(10) 35(5)			
4. Interpret semi-concrete representations of numbers							
Fractional numbers							
--Number line							156-8(7) 161-3(10) 70(10)/CT (6)
--Regions							

CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
5. Read and write fractions in common form							
Parts of a fraction							
--Numerator							162(1) 70(1)/CT (1)
--Denominator							162,165(4) 70(1)/CT (1)
Proper fractions							162-3,168 (10) 70,73(10) CT(1)
Improper fractions							168(10) 73(10)
--Fractions as whole numbers							164-5,168 (10)
Mixed numerals							71(10)
6. Read and write fractions in decimal form							
Tenths							
Hundredths							
7. Round numbers							
To the nearest thousand				93(10) 37(9)/CT (2)			
To the nearest hundred				93(10) 37(9)/CT (2)	119(10) 49(6)	145(3)	
To the nearest ten				93(10) 37(9)/CT (2)	119(10) 49(6)		

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	CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
8.	Convert numerals to equivalent forms (S)							
	Compact-expanded-word	23-6,30 8,9(10)/ CT(7)	45,47(10)		88-91(10) 35-6(10)/ CT(4)			
	Fractions-fractions in simplest form							
	Equivalent fractions							166-7(10) 72(10)/CT (4)
	Improper fractions-mixed numerals							
	Mixed numerals-mixed numerals in simplest form							
	Fractions-decimals							
	Fractions representing division of whole numbers							169(10) 73(10)
	Base 10 - Egyptian numerals to 1000	27(10) 10(10)/CT (4)						
	Base 10 - Roman numerals to 500	28-9(10) 10(10)/CT (3)						
9.	Recognize special sets of numbers							
	Ordinal numbers	9(3)						
	Factors							
	--Common factors						154-5(10) 66(5)	
	--Greatest common factor						154-5(10) 66-7(10)/ CT(8)	

CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
Multiples							
--Least common multiple						156-7 (10). 67 (6)/CT (8)	
--Least common denominator							
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify related symbols							
Parentheses ( )							
Brackets [ ]							
Placeholder ☐							
>; <, =, ≠							
+, -, x, ÷							
2. Recognize related terms and concepts							
Addend	12 (1)	33 (10)/CT (1)					
Sum							
Subtrahend							
Minuend							
Difference							
Factors			24 (2)/CT (1)				
Dividend			72 (1)				
Divisor			28 (1) 72 (1)				
Quotient			28 (1) 28 (1)				
Replacement set	18 (10)						
Solution set	19 (10) 6 (4)/CT (4)						

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LAIDLAW INSTRUCTIONAL OUTCOMES
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CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
3. Compare numbers using relational symbols <, >, =	14-5,25(10) 5(10)/CT(8)						
4. Compare numerical expressions using relational symbols <, >, =	16(10) 5(10)						
5. Identify open and closed sentences	17(10) 6(10)						
6. Simplify numerical expressions Simplest numeral for a number		33-5(10)					
III. PERFORMING MATHEMATICAL OPERATIONS 1. Recall basic facts Addition-subtraction		33,36,42-3(10) 12-3(10)/CT(8)					
Multiplication-division			60-2,64-5,68,73,74-7(10)/24-9(10)/CT(7)		121(10) 50(10)		
2. Recognize properties of arithmetic operations Addition --Commutativity		34(10) 12(10)/CT(4)					172-3(10) 75(10)/CT(1)

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 31	32 - 57	58 - 85	86 - 107	108 - 135	136 - 159	160 - 178
--Associativity		41(10) 15(10)					174-5(10) 76(10)/CT (1)
--Identity		35(7) 12(10)					
--Inverse operation		39(10) 14(10)					
Multiplication							
--Commutativity			63(10) 25(8)				
--Associativity			79(10) 30(10)				
--Distributive property over addition					111(10) 45(10)		
--Identity			66(10) 25(9)				
--Inverse operation			70-1(10) 27(10)/CT (5)				
Division							
--Distributive property over addition					123(10) 51(8)		
3. Perform set operations							
Union of sets (∪)		35(6)					
4. Represent operations by concrete or semi-concrete devices							
Addition of whole numbers							
--Number line		37(4)					
--Joining sets	10-12(10) 3(10)						

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CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108. - 135	6 136 - 159	7 160 - 178
Subtraction of whole numbers							
--Number line		37(4)					
--Separating sets	13(10) 4(10)						
Multiplication of whole numbers							
--Adding equivalent sets			59-60(8)				
Division							
--Separating equivalent sets			67-8(10) 26(5)				
Addition-subtraction of fractional numbers							
--Number line							
Multiplication of fractional numbers							171(4)
--Number line							
5. Perform arithmetic operations with whole numbers (S)							
Addition							
--2,3-digit addends		45,49,53 (10) 16,18,20 (10)/CT(7)					
--4,5-digit addends				97,101(10) 39,41(10)			
Subtraction							
--2,3,4,5-digit numerals		47,51,55 (10) 17,19,21 (10)		99,103(10) 38,40,42 (10)			
Multiplication							
--Multiples of 10 as factors			81-3(10) 31(5) 81(10)			137(8)	
--Multiples of 100 as factors			31(5)/CT (1)				

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 31	32 - 57	58 - 85	86 - 107	108 - 135	136 - 159	160 - 178
--1-digit factors --Repeated addition			60-1(10) 24(10)/CT (5)				
--2,3,4-digit and 1-digit factors					109,113,115 117(10) 46-8(10)/CT (8)		
--2,3-digit and 2-digit factors						139,141(10) 58-9(10)/ CT(8)	
--3-digit factors						143(10) 60(10)/CT (4)	
--0 as a factor			66(10)				
Division							
--Repeated subtraction			69(10)				
--Multiples of 10 as dividends			82-3(10) 32(5)				
--Multiples of 100 as dividends			82-3(10) 32(5)/CT(2)				
--1-digit divisors					124-30(10) 52-4(10)/CT (6)		
--With remainders					131(10) 55(10)/CT (6)		
--2-digit divisors						147,149,151 (10) 62-4(10)/CT (10)	
6. Perform arithmetic operations with fractions in common form							
Addition							
--Fractions less than 1							
--Like denominators							171-5(10) 74-6(10)/ CT(10)

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 31	32 - 57	58 - 85	86 - 107	108 - 135	136 - 159	160 - 178
--Unlike denominators, no renaming							
--Unlike denominators, renaming							
--Fractions greater than 1							
Subtraction							
--Fractions less than 1							
--Like denominators							
--Unlike denominators							
--Subtrahends-whole numbers							
Multiplication							
--Fractions less than 1							
--By a whole number							
7. Perform operations with fractions in decimal form							
Addition							
--Tenths							
--Hundredths							
--Measurement units							
Subtraction							
--Measurement units							
8. Estimate outcomes of operations							
Sums and differences				95 (10) 38 (10)/CT (10)			
Products					119 (10) 49 (2)	145 (10) 61 (3)	
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures							
Points							
Rays							

	CHAPTER	1	2	3	4	5	6	7
	PAGES	5 - 31	32 - 57	58 - 85	86 - 107	108 - 135	136 - 159	160 - 178
	Lines							
	--Parallel lines							
	--Intersecting lines							
	Line segments							
	Angles							
	--Exterior of an angle							
	--Interior of an angle							
	--Right angle							
	--Vertex of an angle							
	Plane							
2.	Identify two-dimensional figures							
	Squares							
	Rectangles							
	Triangles							
	--Right triangles							
	Quadrilaterals							
	Simple closed figures							
	Polygons							
	Circles							
	--Center							
	--Radius							
	--Diameter							
3.	Identify three-dimensional figures							
	Cubes							
4.	Identify congruent figures							
	Line segments							
5.	Construct geometric figures							
	Squares							
	Circles							

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CHAPTER / PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
V. SOLVING VERBAL PROBLEMS							
1. Translate verbal problems to number sentences	21(10) 7(6)/CT(3)	45-56(10) 22(6)/CT (2)	28-9,31-3 (10)/CT(2)	104(9) 43(6)	132-34(10) 56(6)/CT (5)		77(5)
2. Solve verbal problems involving arithmetic operations							
Addition-subtraction of whole numbers	7(6)/CT(3)	56(9) 22(6)/CT (2)		104(9) 43(6)			
Multiplication-division of whole numbers			84(8) 28-9,31-3 (10)/CT(2)		132-34(10) 56(6)/CT (5)	153(8) 65,68(10)/ CT(6)	
Operations with fractions							177(10) 77(5)
3. Solve verbal problems related to special topics							
Statistics --Average							
Measurements							
VI. PERFORMING MEASUREMENTS.							
1. Recognize and interrelate units of measurement (S)							
Length							
--English system							
--Inch							
--Foot							
--Yard							
--Mile							
--Metric System							
--Centimeter							
--Decimeter							
--Meter							

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	CHAPTER	1	2	3	4	5	6	7
	PAGES	5 - 31	32 - 57	58 - 85	86 - 107	108 - 135	136 - 159	160 - 178
	Area							
	--English system							
	--Square inch							
	--Square foot							
	Money							
	--Through dollars							
	Liquid							
	--Fluid ounce							
	--Cup							
	--Pint							
	--Quart							
	--Gallon							
	Weight.							
	--Ounce							
	--Pound							
	--Ton							
2.	Determine the measure of Length of line segments and objects							
	--Nearest inch							
	--Nearest 1/2 inch							
	--Nearest centimeter							
	Perimeter							
	--Polygons							
	--Squares							
	--Rectangles							
	Area							
	--Rectangles							
	--Squares							
	--Right triangles							
	Volume							
	--Cubes							
	--Rectangular solid							
	Temperature							

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	CHAPTER PAGES	1 5 - 31	2 32 - 57	3 58 - 85	4 86 - 107	5 108 - 135	6 136 - 159	7 160 - 178
VII.	EXPRESSING FUNCTIONAL RELATIONSHIPS							
1.	Interpret graphs Bar graphs Pictographs Line graphs							
2.	Plot the graph of a set of number pairs							
	("CHECKUP TIME") and ("REVIEW AND PRACTICE")	31(10) 11(10)	57(10) 23(10)	85(10) 34(10)	105-7(10) 44(10)	133,135(10) 57(10)	159(10) 69(10)	176,178 (10) 78(10)

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Set elements							
--Brace notation							
--Members of a set							
--Subsets							
Set properties							
--Cardinal number of a set [n(A)]							X
Special sets							
--Equal sets							
--Equivalent sets							X
--Nonequivalent sets							
--Empty sets							
2. Read and write numerals for cardinal (whole) numbers							X
Use of periods							
3. Identify place values of digits in numerals							X
4. Interpret semi-concrete representations of numbers							
Fractional numbers							
--Number line							
--Regions							
5. Read and write fractions in common form							
Parts of a fraction							
--Numerator							
--Denominator							
Proper fractions							
Improper fractions							

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
--Fractions as whole numbers							
Mixed numerals	192(10)						
6. Read and write fractions in decimal form							
Tenths				239(8)			X
Hundredths				101(3) 241(8)			X
7. Round numbers							
To the nearest thousand							
To the nearest hundred							
To the nearest ten							X
8. Convert numerals to equivalent forms (S)							
Compact-expanded-word							X
Fractions-fractions in simplest form	190-1(10) 82(10)/CT (6)						X
Equivalent fractions	188-9(10) 81(6)						X
Improper fractions-mixed numerals	195(10) 83(10)/CT (10)						X
Mixed numerals-mixed numerals in simplest form	192,197(10) 84(10)						
Fractions-decimals				239-41(10) 101-3(10)/CT(10)			X
Fractions representing division of whole numbers							

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
Base 10 - Egyptian numerals to 1000 Base 10 - Roman numerals to 500							
9. Recognize special sets of numbers Ordinal numbers Factors --Common factors --Greatest common factor Multiples --Least common multiple --Least common denominator		205 (4) 204-5 (10) 89 (10)/CT (4)					X X
II. EXPRESSING NUMERICAL RELATIONSHIPS 1. Identify related symbols Parentheses ( ) Brackets [ ] Placeholder □ >, <, =, ≠ +, -, x, ÷							
2. Recognize related terms and concepts Addend Sum Subtrahend Minuend Difference Factors Dividend							

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
Divisor Quotient Replacement set Solution set							
3. Compare numbers using relational symbols <, >, =							X
4. Compare numerical expressions using relational symbols <, >, =							
5. Identify open and closed sentences							
6. Simplify numerical expressions Simplest numeral for a number							X
III. PERFORMING MATHEMATICAL OPERATIONS 1. Recall basic facts Addition-subtraction Multiplication-division							X X
2. Recognize properties of arithmetic operations Addition --Commutativity --Associativity --Identity --Inverse operation Multiplication --Commutativity	186 (10) 80 (7)						

CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
--Associativity							
--Distributive property over addition							
--Identity	187(10) 80(7)						X
--Inverse operation Division							
--Distributive property over addition							
3. Perform set operations Union of sets (U)							
4. Represent operations by concrete or semi-concrete devices							
Addition of whole numbers							
--Number line							
--Joining sets							
Subtraction of whole numbers							
--Number line							
--Separating sets							
Multiplication of whole numbers							
--Adding equivalent sets							
Division							
--Separating equivalent sets							
Addition-subtraction of fractional numbers							
--Number line		201-2(3)					
Multiplication of fractional numbers							
--Number line	183(4)						

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CHAPTER	8	9	10	11	12	13	14
PAGES	182 - 199	200 - 215	216 - 237	238 - 261	262 - 281	282 - 298	299 - 326
5. Perform arithmetic operations with whole numbers (S)							
Addition							
--2,3-digit addends							X
--4,5-digit addends							X
Subtraction							
--2,3,4,5-digit numerals							X
Multiplication							
--Multiples of 10 as factors							X
--Multiples of 100 as factors							X
--1-digit factors							
--Repeated addition							
--2,3-4-digit and 1-digit factors							X
--2,3-digit and 2-digit factors							X
--3-digit factors							X
--0 as a factor							X
Division							
--Repeated subtraction							
--Multiples of 10 as dividends							X
--Multiples of 100 as dividends							X
--1-digit divisors							X
--With remainders							X
--2-digit divisors							X
6. Perform arithmetic operations with fractions in common form							
Addition							
--Fractions less than 1							
--Like denominators		201(8) 87(10)/CT (3)					X

CHAPTER	8	9	10	11	12	13	14
PAGES	182 - 199	200 -215	216 - 237	238 - 261	262 - 281	282 - 298	299 - 326
--Unlike denominators, no renaming		207 (10)/CT (4)					X
--Unlike denominators, renaming		207 (10) 90 (10)/CT (4)					X
--Fractions greater than 1		211 (10) 92 (10)/CT (4)					X
Subtraction							
--Fractions less than 1							
--Like denominators		202-3 (10) 88 (10)/CT (3)					
--Unlike denominators		209 (10) 91 (10)/CT (4)					X
--Subtrahends-whole numbers		213 (10) 93 (10)/CT (4)					X
Multiplication							
--Fractions less than 1	184-6 (10) 79-80 (10)/CT (4)						X
--By a whole number	183 (10)/CT (4)						X
7. Perform operations with fractions in decimal form							
Addition							
--Tenths				243 (8) 104 (8)/CT (1)			X
--Hundredths				243 (8) 104 (7)/CT (5)			
--Measurement units				244-5 (10) 108 (10)			X

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
Subtraction							
--Tenths and hundredths				254-5(10) 105(10)/CT (6)			X
--Measurement units				254-5(10) 108(10)			X
8. Estimate outcomes of operations							
Sums and differences							
Products							
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures							
Points			95(6)				
Rays			222-3(6) 97(6)/CT (2)				X
Lines			219(10) 95(6)/CT (2)				X
--Parallel lines			221(3) 96(5)/CT (2)				X
--Intersecting lines			221(3) 96(5)/CT (2)				X
Line segments			217(7) 95(6)/CT (2)				X
Angles			223(3) 97(6)/CT (1)				X

CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
--Exterior of an angle			222-3 (2) 97 (1)				
--Interior of an angle			222-3 (2) 97 (1)				
--Right angle			225 (9)				
--Vertex of an angle			222-3 (2) 97 (6)/CT (1)				
Plane			220 (2)/CT (1)				
2. Identify two-dimensional figures							
Squares			230-1 (5) 98 (5)				
Rectangles			229 (4) 98 (5)/CT (1)				
Triangles			232-3 (6) 99 (5)/CT (1)				
--Right triangles			232-3 (2) 99 (2)				
Quadrilaterals			228-9 (4) 98 (8)				
Simple closed figures			226 (10)				
Polygons							
Circles							
--Center			234 (1)/CT (1)				X
--Radius			234-5 (4) 99 (1)				X
--Diameter			234-5 (4) 99 (1)				X

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CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
3. Identify three-dimensional figures Cubes					274-5 (2)		
4. Identify congruent figures Line segments			227 (4)/CT (1)				
5. Construct geometric figures Squares Circles			98 (1) 235 (3)				
V. SOLVING VERBAL PROBLEMS 1. Translate verbal problems to number sentences							
2. Solve verbal problems involving arithmetic operations Addition-subtraction of whole numbers Multiplication-division of whole numbers Operations with fractions	198 (7) 85 (6)/CT (4)						X
3. Solve verbal problems related to special topics Statistics --Average						297 (10) 126-7 (10)/CT (4)	
Measurements				258-9 (10) 110 (6)/CT (2)	271 (2) 118 (7)/CT (2)		

CHAPTER	8	9	10	11	12	13	14
PAGES	182 - 199	200 - 215	216 - 237	238 - 261	262 - 281	282 - 298	299 - 326
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--English system							
--Inch				249-51(10) 106(8)/CT (3)			X
--Foot				249-51(10) 106(8)/CT (3)			X
--Yard				250-1(10) 106(8)/CT (2)			X
--Mile				106(3)			
--Metric system							
--Centimeter				252-3(10) 107(8)/CT (1)			X
--Decimeter				252-3(10) 107(8)/CT (1)			X
--Meter				252-3(10) 107(8)/CT (1)			X
Area							
--English system							
--Square inch					267(1)		
--Square foot					267(1)		
Money							
--Through dollars				256(8)			X
Liquid							
--Fluid ounce				258(5) 109(2)			X

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CHAPTER / PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
--Cup				258(2)			X
--Pint				109(3) 258(5)			X
--Quart				109(6) 258(5)			X
--Gallon				109(6)/CT (1) 258(4)			X
Weight				109(6)/CT (1)			
--Ounce				257(4)			X
--Pound				109(6)/CT (3) 257(4)			X
--Ton				109(6)/CT (3) 257(3)			X
				109(3)/CT (1)			
2. Determine the measure of Length of line segments and objects							
--Nearest inch				246-7(10)			
--Nearest 1/2 inch				246-9(10)	263(1)		
--Nearest centimeter				247(2)	263(1)		
Perimeter							
--Polygons					264-5(10)		X
--Squares					112(5)/CT (2) 264-5(1)		X
--Rectangles					112(1)/CT (1) 264-5(1)		X
					112(1)/CT (1)		

CHAPTER PAGES	8 182 - 199	9 200 - 215	10 216 - 237	11 238 - 261	12 262 - 281	13 282 - 298	14 299 - 326
Area							
--Rectangles					266-9(10) 113(10)/CT (1)		X
--Squares					270-1(10) 114(9)/CT (1)		X
--Right triangles					272-3(10) 115(10)/CT (2)		X
Volume							
--Cubes					275-7(10)/CT(2)		
--Rectangular solid					278-9(10) 116-7(9)/CT(2)		
Temperature				259(2)			
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS							
1. Interpret graphs							
Bar graphs						288-9(8) 122(8)/CT (7)	X
Pictographs						283-7(10) 120-1(10)	X
Line graphs						294-5(8) 125(8)/CT (1)	X
						290-3(10) 123-4(10)	X
2. Plot the graph of a set of number pairs						290-3(10) 123-4(10)	X

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CHAPTER	8	9	10	11	12	13	14
PAGES	182 - 199	200 - 215	216 - 237	238 - 261	262 - 281	282 - 298	299 - 326
("CHECKUP TIME") and ("REVIEW AND PRACTICE")	199(10) 86(10)	214-5(10) 94(10)	236-7(10) 100(10)	261(10) 111(10)	280-1(10) 119(10)	298(10) 128(10)/CT (10)	

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Set elements							
--Brace notation	5-6,8,11 14(10) 1-5(10)/CT (4)						
--Members of a set	5(2) 1,4-5(10)/ CT(2)						
--Subsets (⊂)	11(10) 4(10)		57-8(10) 24(10)				
Set property							
--Cardinal number of a set[n(A)]	5,7,10(10) 1,3(10)/CT (2)						
Special sets							
--Equal sets	6-7(4) 1,5(10)/CT (4)						
--Equivalent sets	6-7(10) 1(10)/CT (4)		57-8(10) 24(10)				
--Disjoint sets	12-3(10) 5(1)/CT (4)						
--Non-disjoint sets	12(10) 5(1)/CT (4)						
--Empty set		35(3)					
--Sets of points							
--Factor sets					116-7(10) 51-2(4)		

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
2. Identify place values of digits in numerals	18-22,28 (10) 9(5)	47-51(0) 20-1(10)					
3. Read and write numerals for cardinal (whole) numbers --Use of periods		46(10) 19(5)					
4. Interpret semi-concrete representations of numbers Whole numbers --Sets --Number line Fractional numbers (common form) --Regions	(See I - 1) 16(10) 6(10)					125(6) 56(10)	
5. Read and write fractions in common form (S) Parts of a fraction --Numerator --Denominator Proper fractions --Reciprocals Improper fractions Mixed numerals						125(10) 56(10) 125(0) 58(3) 125(0) 58(3) 128(10) 58(10) 137(10) 65(10) 128(10) 58(10) 132(10) 61(10)	

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
6. Read and write fractions in decimal form							
Tenths							
Hundredths							
Thousandths							
7. Recognize special sets of numbers (S)							
Whole numbers	14(8) 6(10)						
Natural numbers	14(8) 6(10)						
Ordinal numbers	8-9(10) 2(10)						
Odd and even numbers					104-7(10) 45-6(10)/CT(3)		
Prime numbers					110-1(7) 48(10)/CT(8)		
Composite numbers					114-5(10) 50(10)/CT(1)		
Factors					116(10) 50(10)/CT(6)		
--Common factors					116-7(10) 51(2)		
--Greatest common factor					116-7(10) 51(10)/CT(6)		
Multiples							
--Multiples of two					104-5(10) 45,48(10)/CT(1)		
--Multiples of three					108-111(10) 46,48(10)/CT(1)		

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
--Multiples of five					103,110-1 (10) 45-6 (10)/CT (2)		
--Multiples of nine					108-9 (10) 46 (10)/CT (1)		
--Multiples of ten				73 (10)	-		
--Least common multiple					118-9 (10) 52 (10)/CT (4)		
--Least common denominator							150,153 (10) 72 (10)/CT (4)
8. Convert numerals to equivalent forms (S)							
Compact-expanded	20-1,24, 28 (10) 8-9 (10)/CT (4)			74-9 (10)			
Fractions-fractions in simplest form						134-5 (10) 63,65 (10)/CT (3)	
Equivalent fractions						126-7 (10) 57 (10)/CT (4)	
Mixed numerals-mixed numerals in simplest form						134-5 (10) 63,65 (10)/CT (3)	
Fractions-decimals							
Equivalent decimals							
Decimals-percent							
Fractions-percent							
Compact forms-exponential forms							

CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
--Powers of ten	23-25(10) 10-1(10)/CT (10)						
--Powers of a numeral	28(2) 11(10)/CT (2)				112-5(10) 49(10)		
--Zero as an exponent	27(10) 11(4)/CT (6)						
Base 10 - base 6	18-21(10) 7-8(10)						
Base 10 - base 5	18-21(10) 7-8(10)						
Base 10 - base 4	18-21(10) 7-8(10)						
Base 10 - base 3							
Base 10 - base 2							
9. Round numbers							
To the nearest thousand				80-1(10) 35(4)			
To the nearest hundred				80-1(10) 35(4)			
To the nearest ten				80-1(10) 35(4)			
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify related symbols							
*Parentheses ( )		38-9,52-3 (10) 16,20(10)/CT(4)	68(10) 25,29(10)/CT(4)				
Brackets [ ]		53(10) 22(10)/CT (4)	68(10) 30(4)/CT (4)				

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
Placeholder □		31-4,42(10) 13(10)/CT (4)					
>, <, =, ≠	10(10) 3(10)/CT (8)	33(10) 14-5(10)/ CT(4)		84-5(10) 36(10)/CT (3)			151(6) 73(10)/CT (4)
+, -, x, ÷							
2. Recognize related terms and concepts							
Addend		36-8,47(10) 15-6(10)					
Sum		47-9(10) 15-6(10)/CT (3)					
Subtrahend		50-1(1)					
Minuend		50-1(2)					
Difference		50-1(10) 21(10)/CT (4)					
Factors			57,63(10) 24(1)/CT (1)				
Product			57(8) 24(1)/CT (1)				
Dividend			62-3(1)				
Divisor			62-3(8)	88-93(2) 41(5)			
Quotient			62-3(0)	86-93(10) 38-9(10)			
Replacement set		32-3(10) 13-15(10)/ CT(4)					
Solution set		32-3(10) 13-5(10)/ CT(4)					

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
3. Compare numbers and numerical expressions							
Whole numbers		33(10) 14(10)/CT (4)		84-5(10) 36(10)/CT (3)			73(10)/CT (4)
Fractional numbers						57-8(10)	
4. Identify open and closed sentences		31,33-4, 44(10) 13-4(10)/ CT(5)					
5. Simplify numerical expressions	17,21(10) 9(5)/CT(3)					138-9(10) 67(10)/CT (10)	
6. Solve number sentences	17,27-8(10)	32-5,43, 52-4(10) 13-4(10)/ CT(8)	58,61-5, 69(10) 27-30(10)/ CT(3)				
III. PERFORMING MATHEMATICAL OPERATIONS							
1. Recall basic facts							
Addition-subtraction		34-5,43(10) 15-6(10)/ CT(10)					
Multiplication-division			63(10) 27(10)				
2. Recognize properties of arithmetic operations							
Addition							
--Commutativity		36-7,40, 54(10) 15-6(10)/ CT(1)	70(1)				

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
--Associativity		38-9,40,54 (10) 16 (10)/CT (1)	70 (1)				
--Identity number		35,54 (10) 15 (2)	70 (1)				
--Inverse operation		42-3,54 (10) 17 (10)	70 (1)				
Multiplication							
--Commutativity			58,70 (7) 25 (10)				
--Associativity			59,60,70 (10). 25-6 (10)/CT (1)				
--Distributive property over addition			66-7,70 (10) 29 (10)/CT (10)	74-9 (6)			
--Identity number			61 (10) 28 (10)/CT (1)				
--Inverse operation			62-3,70 (10) 27 (10)/CT (1)				
Division							
--Distributive property over addition				86-7 (10) 37 (10)			
Combination of operations							
--Order of operations		53 (10) 22 (10)	68 (10). 30 (10)/CT (3)				
3. Perform set operations							
Union of sets (U)	13 (10) 5 (10)/CT (2)	36-9 (0)					

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
Matching members of sets	6-7,12,13 (10) 1 (1)		57-8 (0)				
Separating subsets		41 (0)					
4. Relate set operations to arithmetic operations							
Union of equivalent subsets to multiplication		24 (6)					
5. Perform arithmetic operations with whole numbers (S)							
Addition							
--3,4-digit addends		47-9 (10) 19 (10)					
--4,5-digit addends		48-9 (10) 20 (10)/CT (3)					
--Measurement units							
Subtraction							
--3,4,5-digit numerals		50-1 (10) 21 (10)/CT (4)					
--Measurement units							
Multiplication							
--Multiples of 10 as factors				73 (10)/CT (3)			
--In exponential form	26 (10) 10-1 (10)/CT (6)						
--1-digit factors							
--Repeated addition			57 (10) 24 (1)				
--2,3,4-digit and 1-digit factors				74-5 (10) 32 (10)/CT (5)			

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CHAPTER	1	2	3	4	5	6	7
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--2,3-digit and 2-digit factors				76-7 (10) 33 (10)/CT (2)			
--3-digit factors				78-9 (10) 34 (10)/CT (2)			
--0 as a factor			64 (10) 28 (5)				
Division							
--1-digit divisors				88-91 (10) 38-9 (10)/CT (6)			
--2-digit divisors				92-3 (10) 40 (10)/CT (2)			
--With remainders				94-5 (10) 41 (6)/CT (1)			
--0 as a factor			64 (10) 28 (10)/CT (2)				
--1 as a factor			65 (10) 28 (10)/CT (1)				
6. Perform arithmetic operations with fractions in common form (S)							
Addition							
--Fractions less than 1							
--Like denominators						129 (10) 59 (10)	
--Unlike denominators, no renaming							153 (10) 74 (10)

CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
--Unlike denominators, renaming							153(10) 74(5)/CT(4)
--Fractions greater than 1							156-7(10) 76(10)/CT(2)
Subtraction							
--Fractions less than 1							
--Like denominators							154(10) 75(10)/CT(2)
--Unlike denominators							155(10) 75(6)/CT(2)
--Fractions greater than 1							
--No renaming							160-1(10) 77(10)/CT(1)
--Renaming							162-3(10) 77-8(10)/CT(3)
--Subtrahends-whole numbers							158-9(10) 77(8)/CT(2)
Multiplication							
--Fractions less than 1						130-1(10) 60(10)/CT(2)	
--Fractions greater than 1							
--One factor a whole number						132-3(10) 62(10)/CT(2)	164(10) 79(6)/CT(1)
--Both factors mixed numerals						136-9(10) 64(10)/CT(2)	164(10).
Division							
--Fractions less than 1						140-1(10) 67(10)/CT(3)	

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--Fractions greater than 1						143 (10) 68 (3)/CT (5) 143 (10) 68 (2)/CT (2) 143 (8) 68 (2)	
--Dividends whole numbers							
--Divisors whole numbers							
7. Perform operations with fractions in decimal form							
Addition							
--Tenths							
--Hundredths							
Subtraction							
Multiplication							
--One factor a whole number							
--Both factors decimals							
8. Perform operations with fractions in per cent form							
Specified per cent of a whole number							
9. Estimate outcomes of operations							
Factors				85 (10) 35 (5) 82-3 (10) 35 (4)/CT (6) 88-93 (10)			
Products							
Quotients							

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	CHAPTER	1	2	3	4	5	6	7
	PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
IV.	DESCRIBING GEOMETRIC CONCEPTS							
1.	Identify basic figures							
	Points							
	Rays							
	Lines							
	--Parallel lines							
	--Intersecting lines							
	Line segments							
	--Bisector							
	Angles							
	--Exterior of an angle							
	--Interior of an angle							
	--Obtuse angle							
	--Acute angle							
	--Right angle							
	--Vertex of an angle							
	--Sides of an angle							
	Plane							
2.	Identify two-dimensional figures							
	Square							
	--Perimeter							
	Rectangle							
	Rhombus							
	Parallelogram							
	Pentagon							
	Hexagon							
	Heptagon							
	Octagon							
	Triangle							
	--Acute triangle							
	--Obtuse triangle							
	--Isosceles triangle							
	--Equilateral triangle							
	--Scalene triangle							
	--Right triangle							
	Quadrilateral							

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
Simple closed figures Polygons Circles --Center --Radius --Diameter --Circumference --Arc --Sector --Chord --Central angle							
3. Identify three-dimensional figures Cubes Rectangular solids							
4. Identify congruent figures Line segments Angles Triangles							
5. Construct geometric figures Bisector of a line segment Bisector of an angle Right angles Squares							
6. Identify and use geometric instruments Compass Protractor Ruler							

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
V. SOLVING VERBAL PROBLEMS							
1. Translate verbal problems to number sentences		45(6) 18(6)/CT(3)		96-7(10) 42-3(8)		144-5(10) 69(10)/CT(3)	166(4) 80(6)/CT(1)
2. Solve verbal problems involving arithmetic operations (S)							
Addition		44-5(5) 18(2)					166(1) 80(2)
Subtraction		44-5(6) 18(4)/CT(3)					166(3) 80(3)/CT(1)
Multiplication				96-7(6) 42(3)/CT(1)		144-5(5) 69(3)/CT(2)	
Division				96-7(4) 42(3)/CT(2)		144-5(5) 69(3)/CT(1)	
3. Solve verbal problems related to special topics							
Probability							
Statistics							
--Average				98-9(10) 43(8)/CT(4)			
Ratio and proportion							
Measurements							
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--English system							
--Feet							
--Inch							
--Yard							
--Mile							

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CHAPTER							
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--Metric system							
--Millimeter							
--Centimeter							
--Decimeter							
--Meter							
--Kilometer							
Area							
--English system							
--Square inch							
--Square foot							
--Metric system							
--Square decimeter							
--Square meter							
Volume							
--English system							
--Cubic inch							
--Cubic foot							
--Cubic yard							
--Metric system							
--Cubic centimeter							
--Cubic meter							
Temperature							
--Degree							
--Centigrade							
--Fahrenheit							
Money							
--Penny							
--Nickel							
--Dime							
--Quarter							
--Half dollar							
--Dollar							
Time							
--Second							
--Minute							
--Hour							
--Day							

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PAGES	5 - 29	30 - 55	56 - 71	72 - 101	102 - 123	124 - 147	148 - 168
--Week							
--Month							
--Year							
--Decade							
--Century							
Liquid							
--Fluid ounce							
--Cup							
--Pint							
--Quart							
--Gallon							
Angle							
--Degree							
Weight							
--Ounce							
--Pound							
--Ton							
2. Determine the measure of							
Length							
--Line segments							
--Perimeter							
--Rectangle							
--Square							
--Circle (circumference)							
--Triangle							
Area							
--Rectangle							
--Right triangle							
--Irregular figures							
Volume							
--Cube							
--Rectangular solid							
3. Approximate the measure of line segments							

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CHAPTER PAGES	1 5 - 29	2 30 - 55	3 56 - 71	4 72 - 101	5 102 - 123	6 124 - 147	7 148 - 168
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS							
1. Interpret graphs Bar graphs Pictographs Circular graphs Line graphs							
2. Plot the graph of a set of number pairs							
3. Decode number sequences					120-1 (10) 53-4 (10)/ CT (2)		
("CHECKUP TIME")	29 (10) 12 (10)	55 (10) 23 (10)	71 (10) 31 (10)	101 (10) 44 (10)	123 (10) 55 (10)	147 (10) 71 (10)	168 (10) 81 (10)

CHAPTER PAGES	8 172 - 191	9 192 - 215	10 216 - 239	11 240 - 263	12 264 - 281	13 282 - 298	14 299 - 326
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Set elements							
--Brace notation							
--Members of a set							
--Subsets (⊂)							X
Set property							
--Cardinal number of a set [n(A)]							X
Special sets							
--Equal sets							X
--Equivalent sets							X
--Disjoint sets							X
--Non-disjoint sets							X
--Empty set							X
--Sets of points		193(1)					X
--Factor sets							X
2. Identify place values of digits in numerals						284-97(10) 124-6(10)	
3. Read and write numerals for cardinal (whole) numbers							X
--Use of periods							
4. Interpret semi-concrete representations of numbers							
Whole numbers							
--Sets	(See I - 1)						X
--Number line							
Fractional numbers (common form)							
--Regions							

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5. Read and write fractions in common form (S)							
Parts of a fraction							
--Numerator							X
--Denominator							X
Proper fractions							
--Reciprocals							X
Improper fractions							X
Mixed numerals							X
6. Read and write fractions in decimal form							
Tenths	173-4(10)						X
	82(10)						
Hundredths	175(10)						X
	83(10)						
Thousandths	178(10)						X
	85(10)						
7. Recognize special sets of numbers (S)							
Whole numbers							
Natural numbers							
Ordinal numbers							
Odd and even numbers							X
Prime numbers							X
Composite numbers							
Factors							
--Common factors							X
--Greatest common factor							X
Multiples							
--Multiples of two							
--Multiples of three							
--Multiples of five							
--Multiples of nine							X

	CHAPTER	8	9	10	11	12	13	14
	PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
	--Multiples of ten							
	--Least common multiple							X
	--Least common denominator							
8.	Convert numerals to equivalent forms (S)							
	Compact-expanded							X
	Fractions-fractions in simplest form							X
	Equivalent fractions							X
	Mixed numerals-mixed numerals in simplest form							X
	Fractions-decimals	173,175, 178-9(10) 82-3(10)/ CT(3)						X
	Equivalent decimals	184(10)						
	Decimals-percent	188-9(10) 90(10)						X
	Fractions-percent	188-9(10) 90(10)/CT (3)						X
	Compact forms-exponential forms							X
	--Powers of ten							X
	--Powers of a numeral							
	--Zero as an exponent							X
	Base 10 - base 6							X
	Base 10 - base 5						288-9(10) 124,127(10) /CT(10)	X
	Base 10 - base 4							X
	Base 10 - base 3						290-3(10) 125,127(10) /CT(8)	
	Base 10 - base 2						294-7(10) 126-7(10)/ CT(9)	X

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9.	Round numbers							
	To the nearest thousand							
	To the nearest hundred							
	To the nearest ten							
II.	EXPRESSING NUMERICAL RELATIONSHIPS							
1.	Identify related symbols							
	Parentheses ()							
	Brackets [ ]							
	Placeholder □							X
	>, <, =, ≠							
	+, -, x ÷							
2.	Recognize related terms and concepts							
	Addend							X
	Sum							
	Subtrahend							X
	Minuend							X
	Difference							X
	Factors							
	Product							X
	Dividend							X
	Divisor							X
	Quotient							X
	Replacement set							
	Solution set							
3.	Compare numbers and numerical expressions							
	Whole numbers							
	Fractional numbers							

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4. Identify open and closed sentences							X
5. Simplify numerical expressions							X
6. Solve number sentences							
III. PERFORMING MATHEMATICAL OPERATIONS							
1. Recall basic facts							
Addition-subtraction							
Multiplication-division							
2. Recognize properties of arithmetic operations							
Addition							
--Commutativity							X
--Associativity							X
--Identity number							X
--Inverse operation							X
Multiplication							
--Commutativity							X
--Associativity							X
--Distributive property over addition							X
--Identity number							X
--Inverse operation							X
Division							
--Distributive property over addition							X
Combination of operations							
--Order of operations							
3. Perform set operations							
Union of sets (U)							

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Matching members of sets Separating subsets							
4. Relate set operations to arithmetic operations Union of equivalent subsets to multiplication							
5. Perform arithmetic operations with whole numbers (S) Addition							
--3,4-digit addends							X
--4,5-digit addends							X
--Measurement units			222-3,229-33(10) 102,105-6 (10)/CT(6)				
Subtraction							
--3,4,5-digit numerals							X
--Measurement units			222-3,229-33(10) 102,105-6 (10)/CT(4)				
Multiplication							
--Multiples of 10 as factors							
--In exponential form							
--1-digit factors							
--Repeated addition							
--2,3,4-digit and 1-digit factors							X
--2,3-digit and 2-digit factors							X
--3-digit factors							X
--0 as a factor							X

CHAPTER	8	9	10	11	12	13	14
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Division							
--1-digit divisors							X
--2-digit divisors							X
--With remainders							X
--0 as a factor							X
--1 as a factor							X
6. Perform arithmetic operations with fractions in common form (S)							
Addition							
--Fractions less than 1							
--Like denominators							X
--Unlike denominators, no renaming							X
--Unlike denominators, renaming							X
--Fractions greater than 1							X
Subtraction							
--Fractions less than 1							
--Like denominators							X
--Unlike denominators							X
--Fractions greater than 1							
--No renaming							X
--Renaming							X
--Subtrahends-whole numbers							X
Multiplication							
--Fractions less than 1							X
--Fractions greater than 1							
--One factor a whole number							X
--Both factors mixed numerals							X
Division							
--Fractions less than 1							X
--Fractions greater than 1							X
--Dividends-whole numbers							X
--Divisors-whole numbers							X

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7. Perform operations with fractions in decimal form							
Addition							
--Tenths	174(10) 82(10)/CT (2)						X
--Hundredths	176(10) 84(10)/CT(3)						
Subtraction	177(10) 84(10)/CT(4)						
Multiplication							
--One factor a whole number	181(10) 86(10)/CT(2)						X
--Both factors decimals	183(10) 87(10)/CT(4)						X
8. Perform operations with fractions in per cent form							
Specified per cent of a whole number	190(10) 91(10)/CT(6)						
9. Estimate outcomes of operations							
Factors							X
Products							X
Quotients							X
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures							
Points		193(6) 93(3)					X
Rays		194(4) 93(5)					
Lines		193(6) 93(7)					X
--Parallel lines		196(7) 93(2)					X

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--Intersecting lines		196 (4) 93 (1)					X
Line segments		194 (4) 93 (4)					X
--Bisector		201 (5)					
Angles		202 (8) 95 (10)/CT (1)					X
--Exterior of an angle		202 (1)					
--Interior of an angle		202 (1)					
--Obtuse angle		204-5 (4) 95 (2)					X
--Acute angle		204-5 (4) 95 (3)					X
--Right angle		204-5 (4) 95 (3)					X
--Vertex of an angle		202 (2) 95 (2)					
--Sides of an angle		202 (3) 95 (2)					
Plane		193 (6)					
2. Identify two-dimensional figures							
Square		210-1 (8) 97 (5)/CT (1)					X
--Perimeter				241-8 (10) 111 (10)/CT (6)			X
Rectangle		210-1 (8) 97 (5)/CT (2)					X
Rhombus		210-1 (6) 97 (4)/CT (2)					X

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CHAPTER	8	9	10	11	12	13	14
PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
Parallelogram		210-1 (6) 94 (9)/CT (3)					
Pentagon		198-9 (4) 94 (1)					
Hexagon		198-9 (5) 94 (1)					
Heptagon		198-9 (2) 94 (1)					
Octagon		198-9 (2) 94 (1)					
Triangle		198-9 (3) 94 (1)/CT (6)					X
--Acute triangle		206 (5) 96 (2)/CT (1)					X
--Obtuse triangle		206 (7) 96 (1)/CT (1)					X
--Isosceles triangle		207 (3) 96 (1)/CT (1)					X
--Equilateral triangle		207 (3) 96 (2)/CT (1)					X
--Scalene triangle		207 (4) 96 (1)/CT (1)					X
--Right triangle		206 (7) 96 (2)/CT (1)					X
Quadrilaterals		198-9, 210 (0) 94, 97 (2)/CT (4)					X
Simple closed figures		198-9 (8) 97 (1)/CT (1)					
Polygons		198-9 (8) 94 (1)/CT (5)					X
Circles		200 (10) 94 (1)/CT (1)					X
--Center		200 (2) 94 (2)/CT (1)					
--Radius		200 (2) 94 (2)/CT (3)		244-7 (8) 112 (9)/CT (4)			

CHAPTER PAGES	8 172 - 191	9 192 - 215	10 216 - 239	11 240 - 263	12 264 - 281	13 282 - 298	14 299 - 326
--Diameter		200(2) 94(2)/CT(1)		244-7(10) 112(5)/CT(4)			
--Circumference				244-7(10) 112(10)/CT(8)			X
--Arc		200(1)					
--Sector					274-5(10) 122(3)		
--Chord		200(2) 94(2)/CT(2)					
--Central angle					274-5(10)		
3. Identify three-dimensional figures							
Cubes				256-7(10) 116(1)/CT(1)			
Rectangular solids				258-9(10) 116(3)/CT(1)			X
4. Identify congruent figures							
Line segments		197(8) 93,98(7)/CT(1)					
Angles		203(8) 95(5)/CT(1)					
Triangles		208-9(4) 96(2)/CT(1)					

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CHAPTER / PAGES	8 172 - 191	9 192 - 215	10 216 - 239	11 240 - 263	12 264 - 281	13 282 - 298	14 299 - 326
5. Construct geometric figures							
Bisector of a line segment		201 (6) 214 (8)					
Bisector of an angle		98 (4) 212 (4)					
Right angles		98 (3) 213 (6)					
Squares		98 (3)					
6. Identify and use geometric instruments							
Compass		214 (8)					
Protractor			234-5 (10) 107 (10)/CT (3)				
Ruler		214 (8)					
V. SOLVING VERBAL PROBLEMS							
1. Translate verbal problems to number sentences	185 (4) 88 (3)/CT (4)						
2. Solve verbal problems involving arithmetic operations (S)							
Addition							
Subtraction							
Multiplication							
Division							
3. Solve verbal problems related to special topics							
Probability					278-80 (10) 122 (10)/CT (7)		X

CHAPTER	8	9	10	11	12	13	14
PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
Statistics							
--Average							
Ratio and proportion	186-7 (10) 89 (10)/CT (2)						X
Measurements			237 (4) 108 (4)/CT (2)	248, 254-5 (10) 117 (5)/CT (3)			
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--English system							
--Feet			217, 220-3 (10) 101 (10)/CT (2)				
--Inch			220-3 (10) 101 (10)/CT (1)				
--Yard			220-3 (10) 101 (10)/CT (1)				
--Mile			220-1 (2) 101 (3)/CT (2)				
--Metric system							
--Millimeter			224-7 (10) 103-4 (10)				
--Centimeter			224-7 (10) 103-4 (10)/CT (1)				
--Decimeter			224-7 (10) 103-4 (10)				

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CHAPTER	8	9	10	11	12	13	14
PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
--Meter			224-7(10) 103-4(10)/CT(2)				
--Kilometer			227(10) 103-4(8)/CT(1)				
Area							
--English system							
--Square inch				249(1) 113-5(7)/CT(3)			
--Square foot				249(1) 113-5(7)/CT(2)			
--Metric system							
--Square decimeter				249(1) 113-5(2)			
--Square meter				249(1) 113-5(5)			
Volume							
--English system							
--Cubic inch				256(1) 116(3)/CT(2)			X
--Cubic foot				256(2) 116(4)			X
--Cubic yard				256(1)			
--Metric system							
--Cubic centimeter				259(1) 116(2)			
--Cubic meter				259(1) 116(1)			
Temperature							
--Degree			217,236(10) 108(10)/CT(2)				
--Centigrade			236(10) 108(2)				

CHAPTER	8	9	10	11	12	13	14
PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
--Fahrenheit			236 (10) 108 (2)/CT (1)				
Money							
--Penny			232-3 (10)				
--Nickel			232-3 (1) 106 (1)				
--Dime			232-3 (1)				
--Quarter			232-3 (1)				
--Half dollar			232-3 (1)				
--Dollar			232-3 (10) 106 (10)				
Time							
--Second			228-9 (3) 105 (2)/CT (1)				
--Minute			228-9 (8) 105 (6)/CT (3)				
--Hour			228-9 (6) 105 (4)/CT (2)				
--Day			228-9 (6) 105 (2)				
--Week			228-9 (5) 105 (2)				
--Month			228-9 (3) 105 (2)/CT (1)				
--Year			228-9 (3) 105 (2)/CT (1)				
--Decade			228-9 (0)				
--Century			228-9 (0)				
Liquid							
--Fluid ounce			238 (4) 109 (6)				

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	CHAPTER	8	9	10	11	12	13	14
	PAGES	172 - 191	192 - 215	216 - 239	240 - 263	264 - 281	282 - 298	299 - 326
	--Cup			238 (4)				
	--Pint			109 (7) 238 (7)				
	--Quart			109 (10) 238 (8)				
	--Gallon			109 (10)/CT (1) 238 (9)				
				109 (9)/CT (1)				
	Angle							
	--Degree			234-5 (10) 107 (10)/ CT (3)				
	Weight							
	--Ounce			230-1 (10) 105 (5)/CT (2)				
	--Pound			230-1 (10) 105 (8)/CT (4)				
	--Ton			230-1 (8) 105 (3)/CT (2)				
2.	Determine the measure of							
	Length							
	--Line segments			219 (10) 100 (10)/ CT (3)				
	--Perimeter				241 (8) 111 (10)/CT (6)			
	--Rectangle				242-3 (10) 111 (8)/CT (1)			

CHAPTER / PAGES	8 172 - 191	9 192 - 215	10 216 - 239	11 240 - 263	12 264 - 281	13 282 - 298	14 299 - 326
--Square				242-3 (10) 111 (2)/CT (1)			
--Circle (circumference)				244-7 (10) 112 (10)/CT (8)			
--Triangle				111 (3)/CT (2)			
Area							
--Rectangle				250-1 (10) 113 (10)/CT (2)			X
--Right triangle				252-3 (10) 114 (10)/CT (2)			X
--Irregular figures				254-5 (10) 115 (6)/CT (2)			X
Volume							
--Cube				256-9 (5) 116 (1)/CT (1)			X
--Rectangular solid				258-9 (10) 116 (10)/CT (1)			X
3. Approximate the measure of line segments.			218-9 (10) 100 (10)/CT (3)				X
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS							
1. Interpret graphs							X
Bar graphs					266-9 (10) 119 (4)/CT (1)		
Pictographs					265 (3)		X

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Circular graphs					276-7 (10) 121 (10)/CT (5)		X
Line graphs					272-3 (10) 120 (5)/CT (1)		X
2. Plot the graph of a set of number pairs					270-1 (10) 120 (1)/CT (1)		
3. Decode number sequences							
("CHECKUP TIME")	191 (10) 92 (10)	215 (10) 99 (10)	239 (10) 110 (10)	263 (10) 118 (10)	281 (10) 123 (10)	298 (10) 128 (10)	

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CHAPTER PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Subset			51 (0)				
Number of a set			51 (4)				
Special sets							
--Empty set		37-8 (6) 15-6 (10)					
--Equivalent sets			51 (0)				
--Replacement set		32-3, 38-41 (10) 11, 14-5 (10)/CT (7)					
--Solution set		38-41 (10) 11, 14-5 (10)/CT (7)					
2. Identify place values of digits in numerals							
Whole numbers	12-3 (10) 3 (10)/CT (1)						
Decimal numerals							156-7 (10) 69 (10)
3. Read and write numerals for whole numbers							
--Natural numbers			51 (1) 51 (1)				
4. Interpret semi-concrete representations of numbers							
Number line							
--Whole numbers		40-1 (2)					
--Integers				89-91, 94-102 (10) 39, 41, 43 (10)			
--Rational numbers					108-9 (10) 48 (10)		

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	CHAPTER	1	2	3	4	5	6	7
	PAGES	5 - 27	28 - 49	50 - 85	86 - 105	106 - 131	132 - 153	154 - 186
5.	Read and write fractions (S)							
	Fractions as names for rational numbers					107,110-1 (10) 49 (10)		
	Fractions in common form --Proper fractions					108-9 (10) 49 (10)		
	--Numerator					112-3,118-9 (0)		
	--Denominator					112-3,118-9 (0)		
	--Reciprocals					126 (10) 57 (10)		
	--Mixed numerals					123-5,128-9 (10)		
	Fractions in decimal form							155-7 (10) 69 (4)
	--Repeating decimals							180-1 (10) 79 (10)
	--Terminating decimals							162-3 (10) 71 (10)
6.	Recognize special sets of numbers							
	Prime numbers			81 (3) 35 (10)				
	Composite numbers			81 (1) 35 (8)				
	Factors --Prime factors			82-3 (10) 36 (10)/CT (9)		116-7 (10)		
	--Relatively prime numbers					116-7 (0)		
	--Greatest common factor					116-7 (10) 52 (10)/CT (8)		

CHAPTER PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
Multiples --Least common multiple --Least common denominator						138-9 (10) 62 (0) 140-1 (1) 63 (1)	
7. Convert numerals to equivalent forms (S) Compact-expanded	12-3, 16-21 (10) 3-6 (10)/CT (1)						69 (6)
Equivalent fractions in common form --Simplest form of proper fractions					118-121 (10) 53-4 (10)/CT (10)	133-5 (10) 60 (10)	
--Simplest form of mixed numerals					123 (10) 55 (8)/CT (10)		
Fractions in common form-decimal numerals							158-63, 178-9, 184-5 (10) 69-71 (10)/CT (10)
Decimal numerals-per cent							
Fractions in common form-per cent							
Fractions-ratio							
Standard form-exponential form	11 (10) 3 (10)		82-3 (10) 36 (10)/CT (9)		116-7 (10)		
Decimal numerals-Roman numerals	8-10 (10) 2 (10)/CT (4)						
Decimal numerals-Egyptian numerals	6-7 (10) 1 (10)						

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	CHAPTER PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
	Base 10 - base 7	18-9,24-5 (10) 5,8 (10)/CT (7)						
	Base 10 - base 5	14-7 (10) 4,7 (10)/CT (6)						
	Base 10 - base 4	24-5 (1)/CT (1)						
	Base 10 - base 2	20-1,25 (10) 6,8 (9)/CT (6)						
8.	Round numbers							
	To nearest 100			72 (10)				
	To nearest 10			73 (10)				
	--To the nearest hundredth							182-3 (10) 80 (1)/CT (6)
	--To the nearest tenth							182-3 (8) 80 (1)
9.	Read and write numerals for integers				89-91 (10) 39-40 (10)			
10.	Recognize numeration systems							
	Non-positional							
	--Egyptian numeration	6-7 (3) 1 (10)/CT (1)						
	--Roman numeration	8-10 (4) 2 (10)/CT (1)						
	Positional							
	--Base ten	11-3,15-7, 22-4 (10) 3 (10)/CT (1)						

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--Base seven	18-9,24(10) 5(2)/CT(1)						
--Base five	14-7,22-3 (10) 4,7(3)/CT(1)						
--Base four	24(1)/CT(1)						
--Base two	20-1(10) 6(2)/CT(2)						
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify sets of symbols used in number sentences							
Placeholders							
--□ △		29,32-4(10) 11-3(10)/CT (6)					
Relation symbols							
-- =, ≠, >, <, ≤, ≥		29,36,40-3 (10) 13(10)/CT (6)					
Grouping symbols							
--[ ], ( )		29-31,44-5 (10) 10(10)/CT (4)					
Variables		32,34,44-5 (10) 11,14-5(10)/ CT(4)					
2. Identify open and closed sentences		34-41(10) 12-3(10)/CT (7)					

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CHAPTER PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
3. Compare numbers and numerical expressions							
Integers				92-3 (10) 40 (10)/CT (8)			
Rational numbers						136-7 (10) 61 (10)/CT (6)	
4. Solve number sentences							
Equalities							
--Whole numbers		34,38 (10) 12,17 (10)/ CT (7)					
--Rational numbers						134-5 (10) 60 (10)	
Inequalities							
--Whole numbers		36,40,42 (10) 13,16 (10)/ CT (6)					
--Integers				92-3 (10) 40 (10)/CT (8)			
--Rational numbers						136-7 (10) 61 (10)/CT (6)	
Proportions							
5. Recognize properties of equality							
Reflexive property		48 (1) 18 (3)					
Symmetric property		48 (5) 18 (4)					
Transitive property		48 (5) 18 (7)					

CHAPTER PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
6. Simplify numerical expressions		30-1(10) 10(10)/CT (6)					
III. PERFORMING MATHEMATICAL OPERATIONS							
1. Represent arithmetic operations by semi-concrete devices							
Number line							
--Addition-subtraction of rational numbers						136-7,146-7(0)	155-7(0)
--Addition-subtraction of integers				99(6) 43(6)			
2. Recognize properties of arithmetic operations							
Addition							
--Commutativity			52-3(3) 20(5)/CT(1) 52-3(6) 20(3) 52-3(1) 20(4) 54-5(10) 21(10)	96(2) 42(1)/CT(1) 96(1) 42(1)/CT(1)		144-5(2) 64(6) 144-5(1) 64(9) 144-5(1) 64(1)	
--Associativity							
--Identity number							
--Inverse operation							
--Sum of opposite integers				95,100-3 (10) 42(2)			
Multiplication							
--Commutativity			58-9(2) 23(6)/CT(1) 58-9(2) 23(3)/CT(1) 60(0)/CT(1)		114-5(2) 51(1) 114-5(2) 51(3) 114-5(1) 51(1)		
--Associativity							
--Identity number							

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--Inverse operation			66-7 (10) 27 (10)				
--Distributive property over addition			62-3 (10) 25 (8)/CT (1)				
Division --Distributive property over addition			71 (10) 29 (10)				
Combination of operations --Order of operations		30-1,44-5 (10) 10 (10)/CT (7)					
3. Perform arithmetic operations with whole numbers (S) Addition --More than two 2-digit addends			52-3 (10) 20 (8)				
--Measurement units Subtraction --4,5-digit numerals			56-7 (10) 22 (10)/CT (3)				
--Measurement units Multiplication --3,4-digit factors			64-5 (10) 26 (10)/CT (6)				
--Zero in multiplication			60-1 (10) 24 (10)/CT (2)				
Division --1-digit divisors			69-73 (10) 28,30 (10)/CT (2)				
--Remainders			69 (6) 28 (10)/CT (1)				

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--2-digit divisors			74-7(10) 31-2(10)/CT (2)				
--Zero in division			68(10) 28(10)/CT(1)				
--Divisibility of numbers							
--By 5 and 2			78-79(10) 33(10)				
--By 9 and 3			80(10) 34(10)				
4. Perform arithmetic operations with rational numbers (S)							
Addition							
--Rational numbers less than 1					122-3(10) 55(10)	140-5(10) 63(7)/CT (6)	
--Rational numbers greater than 1						140-5(10) 63(9)/CT (4)	
Subtraction							
--Rational numbers less than 1						146-7(10) 65(10)/CT (6)	
--Rational numbers greater than 1						148-9(10) 65(10)/CT (4)	
Multiplicaton							
--Rational numbers less than 1					112-5,120-1(10) 50-1,54(10)/CT(5)		
--Rational numbers greater than 1					124-5(10) 56(6)/CT(7)		

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Division --Rational numbers less than 1 --Rational numbers greater than 1					126-7 (10) 57 (10)/CT (2) 128-9 (10)/CT (8)		
5. Perform arithmetic operations involving decimals (S) Addition --Measurement units Subtraction --Measurement units Multiplication Division --1-digit whole number as divisor --2-digit whole number as divisor --A decimal numeral as divisor							164-5 (10) 72 (10)/CT (3) 166-7 (10) 73 (10)/CT (3) 168-71 (10) 74-5 (10)/CT (4) 172-3 (10) 76 (4) 174-5 (10) 76 (4)/CT (2) 176-7 (10) 77 (6)/CT (3)
6. Perform arithmetic operations with integers Addition Subtraction				94-7 (10) 41-2,46 (10)/CT (10) 98-103 (10) 43-6 (10)/CT (10)			

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7. Perform arithmetic operations involving per cent (S)							
Specified per cent of a whole number							
8. Perform arithmetic operations involving Roman numerals							
Addition	10(4)						
Subtraction	10(4)						
9. Estimate outcome of operations							
Quotients			72(3)				
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures							
Points							
Rays							
Lines							
--Parallel lines							
--Transverse							
--Perpendicular lines							
--Intersecting lines							
Line segments							
--Midpoint							
--Endpoint							
--Bisecting							
Angles							
--Components							
--Sides							
--Vertex							
--Exterior							
--Interior							
--Types							
--Acute							
--Obtuse							
--Right							

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--Straight							
--Vertical							
Planes							
2. Identify two-dimensional figures							
Simple closed figures							
--Interior							
--Exterior							
Triangles							
--Components							
--Altitude							
--Types							
--Acute							
--Obtuse							
--Right							
--Isosceles							
--Equilateral							
--Scalene							
Square							
Rectangle							
Parallelogram							
Rhombus							
Trapezoid							
Pentagon							
Hexagon							
Octagon							
Circle							
--Center							
--Radius							
--Diameter							
--Circumference							
--Arc							
--Semicircle							
--Chord							
Quadrilateral							
Polygon							
--Perimeter							

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CHAPTER / PAGES	1 5 - 27	2 28 - 49	3 50 - 85	4 86 - 105	5 106 - 131	6 132 - 153	7 154 - 186
3. Identify three-dimensional figures Cube Rectangular solid Cylinder							
4. Identify congruent figures Line segments Angles Triangles							
5. Construct geometric figures Line segments Bisector of a line segment Perpendicular lines Bisector of an angle Congruent angles Congruent triangles Right angles Rectangles							
V. SOLVING VERBAL PROBLEMS 1. Translate verbal problems to number sentences		32-3(4) 11,16(10)	84(5) 37(5)		129(2) 58(4)/CT(4)	143,151(9) 67(5)/CT(5)	78(6)
2. Solve verbal problems involving arithmetic operations (S) Addition Subtraction Multiplication Division		43(4) 16(4)		84,88(7) 37(3) 84(2) 37(2) 84(1) 37(1) 84(2) 37(2)	129(2) 59(3)/CT(2)	143,151(6) 67(5)/CT(1) 151(2)/CT(2) 151(3)	78(2) 78(1) 78(2) 78(2)

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3. Solve verbal problems related to special topics							
Probability							
--Different outcomes							
--Successive outcomes							
Measurements							
Statistics							
--Organization of data set							
--Frequency tables							
--Mean							
--Average							
--Median							
--Mode							
--Per cent							
Ratio and proportion							
Rate							
Logic							
--if - then sentences		46-7(10)					
VI. PERFORMING MEASUREMENTS							
1. Recognize and interrelate units of measurement (S)							
Length							
--Millimeter							
--Centimeter							
--Decimeter							
--Meter							
--Decameter							
--Hectometer							
--Kilometer							
--Inch							
--Foot							
--Yard							
--Mile							
Area							
--Square centimeter							
--Square inch							

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CHAPTER	1	2	3	4	5	6	7
PAGES	5 - 27	28 - 49	50 - 85	86 - 105	106 - 131	132 - 153	154 - 186
Temperature --Degree --Centigrade --Fahrenheit Time Angle --Degree							
2. Describe the range of the precision of measurements							
3. Determine the measure of (S) Length --Line segments --Perimeter of geometric figures --Polygons --Rectangles --Squares --Circles (circumference) --Pi Area --Squares --Rectangles --Triangles --Right triangle --Parallelogram --Circle Volume --Cylinders --Cubes --Rectangular solids Angles							

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VII. EXPRESSING FUNCTIONAL RELATIONSHIPS							
1. Draw and interpret graphs Histograms							
("CHECKUP TIME")	27 (10) 9 (10)	49 (9) 19 (10)	85 (10) 38 (10)	105 (10) 47 (10)	131 (10) 59 (10)	153 (10) 68 (10)	186 (10) 82 (10)

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CHAPTER / PAGES	8 190 - 205	9 206 - 227	10 228 - 247	11 248 - 267	12 268 - 291	13 292 - 310	14 311 - 326
I. IDENTIFYING NUMBERS AND NUMERALS							
1. Recognize set concepts related to numbers							
Subset							
Number of a set	191(4)						
Special sets							
--Empty set							
--Equivalent sets							
--Replacement set							
--Solution set							X
							X
2. Identify place values of digits in numerals							
Whole numbers							
Decimal numerals							X
							X
3. Read and write numerals for whole numbers							
--Natural numbers							X
4. Interpret semi-concrete representations of numbers							
Number line							
--Whole numbers							
--Integers							
--Rational numbers							
5. Read and write fractions (S)							
Fractions as names for rational numbers							X
Fractions in common form							
--Proper fractions							
--Numerator							X
--Denominator							X
--Reciprocals							X
							X

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--Mixed numerals							X
Fractions in decimal form							X
--Repeating decimals							X
--Terminating decimals							X
6. Recognize special sets of numbers							
Prime numbers							X
Composite numbers							X
Factors							
--Prime factors							
--Relatively prime numbers							X
--Greatest common factor							
Multiples							X
--Least common multiple							
--Least common denominator							X
7. Convert numerals to equivalent forms (S)							
Compact-expanded							X
Equivalent fractions in common form							X
--Simplest form of proper fractions							X
--Simplest form of mixed numerals							X
Fractions in common form-decimal numerals							X
Decimal numerals-per cent	196-7(10) 85(10)/CT(1)						X
Fractions in common form-per cent	198-9(10) 86(10)/CT(3)						
Fractions-ratio	191-3(10) 83(10)/CT(2)						
Standard form-exponential form							

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Decimal numerals-Roman numerals							X
Decimal numerals-Egyptian numerals							
Base 10 - base 7							X
Base 10 - base 5							
Base 10 - base 4							
Base 10 - base 2							X
8. Round numbers							
To nearest 100							
To nearest 10							
--To the nearest hundredth							
--To the nearest tenth							
9. Read and write numerals for integers							X
10. Recognize numeration systems							
Non-positional							
--Egyptian numeration							X
--Roman numeration							X
Positional,							
--Base ten							X
--Base seven							X
--Base five							
--Base four							
--Base two							X
II. EXPRESSING NUMERICAL RELATIONSHIPS							
1. Identify sets of symbols used in number sentences							
Placeholders							
-- $\square$ $\triangle$							
Relation symbols							
--=, $\neq$, >, <, $\leq$, $\geq$							

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CHAPTER	8	9	10	11	12	13	14
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Grouping symbols --[ ], ( )							X
Variables							X
2. Identify open and closed sentences							X
3. Compare numbers and numerical expressions							
Integers							
Rational numbers							
4. Solve number sentences							
Equalities							
--Whole numbers							X
--Rational numbers							X
Inequalities							
--Whole numbers							
--Integers							
--Rational numbers							
Proportions	193(10), 84(10)/CT (8)						
5. Recognize properties of equality							
Reflexive property							X
Symmetric property							X
Transitive property							X
6. Simplify numerical expressions							

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CHAPTER PAGES	8 190 - 205	9 206 - 227	10 228 - 247	11 248 - 267	12 268 - 291	13 292 - 310	14 311 - 326
III. PERFORMING MATHEMATICAL OPERATIONS							
1. Represent arithmetic operations by semi-concrete devices							
Number line							
--Addition-subtraction of rational numbers							
--Addition-subtraction of integers							
2. Recognize properties of arithmetic operations							
Addition							
--Commutativity							X
--Associativity							X
--Identity number							X
--Inverse operation							X
--Sum of opposite integers							X
Multiplication							
--Commutativity							X
--Associativity							X
--Identity number							X
--Inverse operation							X
--Distributive property over addition							X
Division							
--Distributive property over addition							X
Combination of operations							
--Order of operations							X
3. Perform arithmetic operations with whole numbers (S)							
Addition							
--More than two 2-digit addends							
--Measurement units				262-3(6) 108(4)/CT (5)			X

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Subtraction							
--4,5-digit numerals							X
--Measurement units				262-3(6) 108(2)/CT (5)			X
Multiplication							
--3,4-digit factors							X
--Zero in multiplication							X
Division							
--1-digit divisors							
--Remainders							
--2-digit divisors							
--Zero in division							
--Divisibility of numbers							X
--By 5 and 2							X
--By 9 and 3							X
4. Perform arithmetic operations with rational numbers (S)							
Addition							
--Rational numbers less than 1							X
--Rational numbers greater than 1							X
Subtraction							
--Rational numbers less than 1							X
--Rational numbers greater than 1							X
Multiplication							
--Rational numbers less than 1							
--Rational numbers greater than 1							X
Division							
--Rational numbers less than 1							X
--Rational numbers greater than 1							

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5. Perform arithmetic operations involving decimals (S)							
Addition							X
--Measurement units				260-1(6) 108(2)/CT (3)			X
Subtraction							X
--Measurement units				260-1(6) 108(1)/CT (3)			X
Multiplication							X
Division							
--1-digit whole number as divisor							
--2-digit whole number as divisor							
--A decimal numeral as divisor							
6. Perform arithmetic operations with integers							
Addition							X
Subtraction							X
7. Perform arithmetic operations involving per cent (S)							
Specified per cent of a whole number	200-3(10) 87-8(10)/ CT(7)						X
8. Perform arithmetic operations involving Roman numerals							
Addition							
Subtraction							

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9. Estimate outcome of operations							
Quotients							X
IV. DESCRIBING GEOMETRIC CONCEPTS							
1. Identify basic figures							
Points		207-9(6) 91(3)					X
Rays		208-9,214-5,218-9(10) 93(6)/CT(1)					
Lines		207-9(3) 93(6)/CT(1)					
--Parallel lines			238-9(10) 101(8)/CT(2)				X
--Transverse			238-9(10) 101(2)/CT(1)				X
--Perpendicular lines		224-5(10) 96(4)/CT(1)					X
--Intersecting lines		222(10) 96(10)/CT(5)					X
Line segments		208-9(10) 93(8)/CT(1)					X
--Midpoint		220(6)					
--Endpoint		208-9(6) 93(3)					
--Bisecting		220(6) 95(4)/CT(2)					
Angles		214-9(10) 94-6(10)/CT(10)					X
--Components							
--Sides		214-5(6)					

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--Vertex		214-5,221 (6) 94 (1)/CT (1)					
--Exterior		214-5 (1) 94 (1)					
--Interior		214-5 (1) 94 (1)					
--Types							
--Acute		226 (8) 96 (2)/CT (2)					X
--Obtuse		226 (5) 96 (2)/CT (2)					X
--Right		224,226 (10) 96 (3)/CT (1)					X
--Straight		226 (0)					X
--Vertical		222-3 (10) 96 (10)/CT (1)	238-9 (10) 101 (8)				X
Planes		208-9,222-3 (0)					
4.52. Identify two-dimensional figures							
Simple closed figures			229-30 (10) 98 (8)				
--Interior			230 (0) 98 (1)				
--Exterior			230 (0)				
Triangles			231-2 (10) 98-9 (10)/CT (3)				
--Components							
--Altitude					276-7 (10) 114 (10)		
--Types							
--Acute			232-3 (3) 99 (2)				X
--Obtuse			232-3 (4) 99 (2)				X

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--Right			232-3(4) 99(3)				X
--Isosceles			232-3(3) 99(3)				X
--Equilateral			232-3(1) 99(2)				X
--Scalene			232-3(5) 99(2)				X
Square			240-1(3) 102(3)/CT(1)				
Rectangle			240-1(3) 102(3)/CT(1)				
Parallelogram			240-1,244-6(10) 102-3(10)/CT(6)				X
Rhombus			240-1(2) 102(1)/CT(1)				
Trapezoid			240-1(1) 102(1)/CT(1)				
Pentagon			231(2) 98(1)				
Hexagon			231(4) 98(1)				
Heptagon			231(2) 98(1)				
Octagon			231(3) 98(1)				
Circle		210-1(10) 92(10)/CT(10)					
--Center		210-1(2) 92(1)/CT(1)					

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--Radius		210-3(5) 92(6)/CT (1)			284-7(10) 116,118 (10)		
--Diameter		210-3(3) 92(5)/CT (1)			282-4,286-7(10) 116,118 (10)		
--Circumference					282-4,286-7(10) 116,118 (10)/CT(2)		X
--Arc		210-1(1) 92(2)/CT (1)					
--Semicircle		210-1(0) 92(2)					
--Chord		210-1(4) 92(5)/CT (1)					
Quadrilateral			231,240-1 (10) 98(2)/CT(1)				
Polygon							X
--Perimeter					269-71(10) 112(10)/CT (4)		X
3. Identify three-dimensional figures							
Cube					288-9(8) 119(1)		
Rectangular solid					288-9(10) 119(6)		X
Cylinder					290(10) 119(7)		X

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4.	Identify congruent figures							
	Line segments		212-3,220 (8) 93 (10)/CT (1)					X
	Angles		218-221 (10) 94 (8)/CT (2)					X
	Triangles			234-7 (10) 100 (5)/CT (3)				X
5.	Construct geometric figures							
	Line segments		212 (2) 93 (3)/CT (1)					X
	Bisector of a line segment.		220 (6) 95 (3)					
	Perpendicular lines		224-5 (8) 96 (2)/CT (1)					
	Bisector of an angle		221 (4) 95 (3)/CT (1)					
	Congruent angles		218-9 (10) /CT (1)					X
	Congruent triangles			234-7 (10) 100 (1)				X
	Right angles Rectangles		224-5 (8)	242-3 (2) 102 (1)				
V.	SOLVING VERBAL PROBLEMS							
1.	Translate verbal problems to number sentences	195,201,203 -4 (10) 89 (5)/CT (5)				285 (9) 117 (6)/CT (3)		

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2. Solve verbal problems involving arithmetic operations (S)							
Addition							
Subtraction							
Multiplication							
Division							
3. Solve verbal problems related to special topics							
Probability							
--Different outcomes						302-9 (10) 124, 127 (10)/CT (4) 304-5 (10) 125 (10)/CT (2)	X
--Successive outcomes						306-9 (10) 126 (10)/CT (2)	
Measurements				265 (6) 109 (4)	285 (9) 117 (6)/CT (3)		
Statistics							
--Organization of data set						293-5 (10) 121-2 (10)/CT (1)	X
--Frequency tables						298-9 (6) 122 (4)/CT (1)	
--Mean						297-300-1 (10) 121-2 (5)/CT (4)	X
--Average						297 (10) 121-2 (5)/CT (4)	

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--Median						296-7(8) 121(7)/CT (4)	X
--Mode						294-5,300- 1(6) 121(7)/CT (1)	X
--Per cent	201,203-4 (10) 89(1)/CT (3)						
Ratio and proportion	191-3,195 (9) 89(4)/CT(6)						
Rate				265-6.(5) 110(8)			
Logic --If - then sentences							
VI. PERFORMING MEASUREMENTS 1. Recognize and interrelate units of measurement (S)							
Length --Millimeter				250-1(5) 105(6)/CT (1)			X
--Centimeter				250-1(7) 105(6)/CT (2)			
--Decimeter				250-1(6)/ CT(1)			
--Meter				250-1(10) 105(6)/CT (3)			
--Decameter				250-1(2)			
--Hectometer				250-1(1)			

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--Kilometer				250-1(7) 105(4)/CT(1)			
--Inch				249(8) 105(6)/CT(3)			
--Foot				249(9) 105(8)/CT(2)			
--Yard				249(4) 105(6)/CT(1)			
--Mile				249(3) 105(3)			
Area							X
--Square centimeter					272-3(2) 113(1)/CT(1)		
--Square inch					272-3(4) 113(1)/CT(1)		
Temperature							
--Degree				252-3(10) 106(8)/CT(3)			
--Centigrade				252-3(8) 106(6)/CT(1)			
--Fahrenheit				252-3(8) 106(6)/CT(2)			
Time				254(10) 106(8)/CT(7)			
Angle							
--Degree		216-7,222-3(10) 95-6(10)/CT(3)					

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2. Describe the range of the precision of measurements				255-8(10) 107(10)/CT (7)			X
3. Determine the measure of (S) Length							
--Line segments				255(10) 107(6)			X
--Perimeter of geometric figures							
--Polygons					269-71(10) 112(10)/CT (4)		
--Rectangles					270-1(10) 112(6)/CT (2)		X
--Squares					270-1(2) 112(1)/CT (1)		X
--Circles (circumference)					282-5(10) 116(10)/ CT(3)		
--Pi					282-5(10) 116(10)/ CT(3)		
Area							
--Squares					272-5(3)/ CT(1)		
--Rectangles					272-5(10) 113(6)/CT (1)		X
--Triangles					276-9(10) 114(10)/ CT(2)		X
--Right triangle					276-7(10)/ CT(1)		
--Parallelogram					280-1(10) 115(10)/ CT(2)		X

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--Circle					286-7 (10) 118 (10)/CT (3)		X
Volume --Cylinders					290 (10) 119 (7)/CT (1)		X
--Cube					288-9 (8) 119 (1)		
--Rectangular solids					288-9 (10) 119 (5)/CT (1)		
Angles		216-7 (10) 95 (6)/CT (3)					
VII. EXPRESSING FUNCTIONAL RELATIONSHIPS 1. Draw and interpret graphs Histograms						300-1 (8) 123 (4)/CT (4)	X
("CHECKUP TIME")	205 (10) 90 (10)	227 (7) 97 (10)	247 (6) 104 (10)	267 (6) 111 (10)	291 (9) 120 (10)	311 (7) 128 (10)	

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